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THE IMPORTANCE OF VENEREAL DISEASE CONTROL IN LOUISIANA*

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Thirty-five years have passed since the discovery of the etiologic organism of syphilis—the *Treponema pallida*—by Schaudinn. Shortly after this Wassermann contributed his serologic test for diagnosis and Ehrlich brought forward an arsenical chemical compound (salvarsan) which has proved highly effective in the treatment of lues. Since these epochal contributions a great mass of facts concerning the disease itself and the treatment thereof has been added to the volume of syphilitic information by numerous observers, so that today our knowledge of the disease as to its latency (which implies trickiness) and as to its persistence is well organized. Likewise the various tests for diagnosis and prognosis have become more or less uniform in procedure and interpretation. Finally it might also be said that the accepted type and amount of treatment necessary for cure of the disease has become fairly well standardized.

In spite of this accumulation of knowledge only a moderate percentage of the victims of syphilis have been benefited. This has been due to taboo in discussion of the disease, secrecy on account of social stigma, indifference and ignorance on the part of patients. Physicians have rendered excellent service to individual patients in many instances, but among the profession there is a lack of conviction of the need and pessimism as to what can be accomplished by treatment of the masses. Thus there is a feeling of uncertainty—but this much is certain—organized medicine has been unsuccessful in reducing the incidence of syphilis in the States so far until an organized administrative movement to cooperate with practitioners has been instituted. It was recognition of this necessity which led the surgeon-general, Dr. Thomas Parran, in 1936, to initiate a national venereal disease control program. Several of the states are well along the road in their effort in this line, as evidenced by a relatively low incidence of the disease. In Louisiana there is a high incidence of infection (which will be brought out later) and the problem is a serious challenge to the medical profession. Already the groundwork has been laid in setting up clinics available to most of the population and in standardization of diagnostic laboratory tests. A creditable showing is being made in the field, but this is not enough—the primary and highly important problem is that of finding the cases.

INCIDENCE

The very nature of syphilis, the insidious course in the period of latency after the primary and secondary stages have passed, makes it difficult for the afflicted individual to realize the seriousness of his predicament and to cause him to seek treatment when he has no complaint. However, this difficulty may be overcome both by education of the public as to the necessity of physical examination and Wassermann tests, and the requirement of examination in certain available groups. Surveys may be conducted in many large industrial organizations and in some of the social groups who come under governmental supervision.

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These surveys are of immense importance in finding syphilis. Compulsory legal methods for the control of venereal disease have been effective in Sweden, Norway, Denmark and Russia, and it is noteworthy that the incidence of syphilis and gonorrhea is least in that country which has the most stringent regulations, namely, Sweden. In Sweden the incidence rate for acquired syphilis dropped from 10.2 per 10,000 population in 1919 to 0.67 in 1935, whereas the rate in the United States today is 22.4 per 10,000 population. Great Britain and Holland have depended on educational methods rather than compulsory regulations with fairly good results. The incidence rate for acquired syphilis in Britain in 1935 was 1.47 per 10,000 population. The principal idea in the British plan is to make treatment free, efficient, easily available and confidential, and to educate the public. Statutes enacted for the control of venereal disease include reporting of cases, the child health laws (which require Wassermann examinations in expectant mothers to facilitate prenatal treatment in infected women), premarital examinations including serologic tests and regulations to control individuals who have the disease (including isolation) in order to force these patients to submit to treatment until at least the communicable stage of the disease has passed. How much these laws may interfere with a citizen's personal rights and liberties, and how far they should go are entirely a personal equation; but one must consider the well-being of the body politic as well as personal privileges in forming an opinion. Legal measures in Louisiana have thus far been enacted without any penalty of moment for physicians concerned, mainly for the protection of the medical profession, and it is to be hoped that more stringent laws will not be necessary. Thus we may say that the purpose of existing Louisiana laws is primarily education, that is, they indicate to the public the importance of venereal disease and its control.

PROGRAM FOR CONTROL

In setting up a program for the control of social disease by the Public Health Service more emphasis has been placed on syphilis than other of the venereal diseases for good reasons. Lues and gonorrhea are by far the more common infections. Gonorrhea requires an absolute cure to render it innocuous for individuals who come in sexual contact with its host, and the difficulty of securing dependable tests in suspected cases (particularly in the female) is well known. This is borne out by the relatively poorer success reported in control of gonorrhea in the Scandinavian countries than in the control of lues. Syphilis is more readily diagnosed by serologic tests and victims become non-infectious before a complete cure is attained. These facts, together with the prospect of deferred pain, disability and death, make syphilis the major venereal disease of public health importance. In view of these considerations it seems logical that syphilis is the primary problem.

In a study of any disease we are not only confronted with the immediate result of pain, suffering, disability and grief experienced by the patient and his relatives, but we are also concerned with the economic problem from a public standpoint. Syphilis is undoubtedly one of the (if not the leading) causes of disability which leads to public care for its victim. This fact is reflected in a small measure in the isolated statistics available in the State of Louisiana. National statistics show a large amount of money is expended annually for care of syphilitics, and in Louisiana the economic problem is greater in proportion on account of a high incidence of the disease.

VITAL STATISTICS

Vital statistics are not reliable in the consideration of the incidence of syphilis. This is easily understandable as in many instances syphilis is unrecognized as an underlying cause and the condition is reported merely as such—heart disease, or vascular disease. In addition, many physicians hesitate to put the stigma of the malady on surviving relatives. The American Social Hygiene Association estimates on reliable statistics in the United States:

1. That over 100,000 persons die each year from syphilis.
2. Forty thousand people die each year because of syphilitic heart disease.
3. Twenty-five thousand babies die each year from syphilis, though J. Whitridge Williams found the incidence of syphilis in children 3.5 per cent in the Johns Hopkins Clinic.
4. Ten million people now have or have had syphilis.
5. One in 10 cases of insanity is due to syphilis.
6. One in seven cases of blindness is due to syphilis.

Reliable statistics also estimate that 60 per cent of the male population acquires gonorrhea at some time during their life.

Below is a report from the Charity Hospital of New Orleans, in 1940.

	Number Cases	Hospital Days	Deaths
Gonorrhea—all types	525	6,028	7
Lymphogranuloma inguinale	247	3,524	6
Chancroid	41	439	6
Granuloma inguinale	77	1,496	1
Syphilis—all types	3,915	66,093	222
Totals	4,805	77,580	236
Of syphilis cases above,			
Luetic heart disease	424	7,815	114
C.N.S. lues	521	6,706	6

Other state institutions show:

Shreveport Charity Hospital—1939.
Syphilis—320 cases.
Avg. hospital days stay for all admissions—10 days.
Avg. cost per patient per day—$1.53.
Lafayette Charity Hospital—1940.
Syphilis—13 cases—113 hospital days.
Avg. cost per patient per day—$2.50.
Central Louisiana State Hospital—1940.
Syphilis—62 cases—hospital days ?

A Wassermann survey of Louisiana draftees as of March 15, 1941, shows:

Total— 19,931
Positive— 2,536, or 12.72%
Doubtful— 366, or 1.83%
Negative—17,029, or 85.45%.

A comparison with statistics* of other states reveals:

Group 1 — Average Rate 7 per 1,000

Minnesota	Rhode Island	Utah
North Dakota	Wisconsin	Nebraska

Group 2 — Average Rate 19 per 1,000

Wyoming	Colorado	Ohio	New York
Michigan	New Jersey	Montana	Kansas

Group 3 — Average Rate 61 per 1,000

West Virginia	Maryland	North Carolina†
Oklahoma	Tennessee	Alabama

Group 4 — Average Rate 114 per 1,000

Georgia	Louisiana	Mississippi	Florida

(Rates per 1,000 men examined, based on positive blood tests and clinical findings).

A Wassermann Survey of W.P.A. employees by Dr. A. B. Price of the State Department of Health as of September 30, 1940, in New Orleans is as follows:

		Total	Negative	Positive	Per Cent Positive
White—	Male—	1,865	1,743	122	6.5
	Female—	985	943	42	4.2
Colored—	Male—	3,291	2,214	1,077	32.6
	Female—	190	156	34	17.9
Totals—		6,331	5,056	1,275	20.1

A report from Dr. Myron A. Walker at the Louisiana State Penal Farm discloses that approximately 450 of 3,100 inmates have a positive Wassermann.

CONCLUSION

It is evident that:

1. The incidence of syphilis in Louisiana is relatively high.
2. Organized medicine alone has been unsuccessful in the control of venereal disease.
3. Cooperation between organized medicine and the public health service is desirable for venereal disease control.

DISCUSSION

Dr. I. B. Rougon (Shreveport): Dr. Vickery has covered the subject of venereal disease control in a very exhaustive and thorough manner and there is little that I can add except to emphasize what has already been said.

It seems that it takes a war or a national crisis to bring the American public to a realization of their responsibility to protect the health of their community from the inroads of the great scourges —syphilis and gonorrhea.

It took the World War of 1918 to awaken the public of the menace and disgrace of legalized prostitution before it was abolished. This, the very foundation upon which venereal diseases rests, flourished in this country and it took a war to make us realize what it was doing to public morals and the dissemination of venereal diseases amongst our citizens. Years have passed, time marches on, and our enthusiasm has cooled in the fight against venereal disease and now that there is war again

*Preliminary returns on 120,751 men examined for syphilis by Selective Service Boards November and December, 1940.
†Based on 133,117 Registrants.

we are getting venereal disease conscious once more. The control and eradication of syphilis and gonorrhea is in the limelight once more. Only a few short months ago people did not write about syphilis and gonorrhea in popular magazines. Today the demand for such articles strains the capacity of medical writers. The public has awakened once more and wants a frank and accurate discussion of this subject.

Think of this! Every year 1,000,000 Americans contract syphilis and perhaps four to five times that many contract gonorrhea.

A determined attack on syphilis is being made and perhaps it will take a generation to eradicate it. Due to the length of time it takes to cure this disease, its eradication will be difficult. Think of the morbidity of this disease: (1) Insanity—one case in every ten is caused by syphilis; (2) locomotor ataxia; (3) blindness—one case in every six is caused by syphilis; (4) heart disease—40,000 persons die in this country as a result of syphilitic heart disease.

Gonorrhea now with late methods of treatment has become less of a problem than heretofore, because its cure by means of sulfathiazole and sulfapyridine has been simplified. It too carries its toll of human misery—gonorrheal rheumatism, sterility, blindness and many other woes.

The actual work of stamping out venereal disease rests with individual states and they are nobly doing their part. Departments for venereal disease work have been set up in 32 states. These have established effective treatment centers, discovered thousands of cases of the diseases and persuaded patients to take up treatment and carry on to cure. The Louisiana State Department of Health is to be congratulated on the work that they are doing along this line. It is spending large sums of money in establishing venereal disease clinics for diagnosis and treatment.

Millions of dollars now spent for the control and eradication of venereal diseases would be unnecessary if our youths were taught the dangers of such diseases and avoidance of infection, and if we cleaned up sources of corruption. Law enforcement agencies must attack vice rings which exploit vice, they must clean out sinkholes which pollute our communities.

Education, more education, and more public meetings, and discussions, such as this one, will go a long way towards solving these problems.

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THE PUBLIC HEALTH ASPECTS OF PULMONARY TUBERCULOSIS

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In view of the current Anti-Tuberculosis Campaign being waged in Louisiana, it is quite fitting that tuberculosis be considered in the light of modern public health practice. Tuberculosis control today is generally accepted as one of the basic activities of state and local health departments, and, justly so, because the control of this disease is generally considered a major public health problem.

It has been wisely said that the tubercle bacillus is no respector of persons or localities. In the past much has been accomplished in tuberculosis control throughout the United States, and diagnostic facilities regarding this disease have been improved one hundred per cent, but it may be said without fear of contradiction, that the State of Louisiana has not kept pace with the rate of progress made by the majority of other states of the Union. This situation is lamentable, and it is fervently hoped that the tuberculosis control program will go steadily forward in future years.

We have stated that the control of tuberculosis has been duly classified as a major public health problem, not only in the United States, but more so in the State of Louisiana, and, as such, warrants the combined efforts of the medical and public health professions, and the lay public in an attempt to eradicate the "White Plague" from the State. This terrible scourge is still responsible for much unnecessary suffering and economic loss, and still claims sixty-five deaths per hundred thousand population in the State of Louisiana.

It might be well to define the term, "public health" before considering the disease, tuberculosis, itself. C. E. A. Winslow of Yale recently propounded the following definition of public health, which is generally accepted: "Public health is the art and science of preventing disease, prolonging life, and promoting physical and mental efficiency through organized community effort."

We may well ask ourselves why tuberculosis is considered a public health problem.

Mustard[1] has recently summed up the situation in the following manner:

(1) It is a communicable disease.
(2) It is preventable.
(3) It is a disease of the masses.
(4) Protective measures and public health laws require that the Health Department exert efforts to control the spread of this disease.

EPIDEMIOLOGY

It is a matter of common knowledge that the etiologic agent of tuberculosis is the tubercle bacillus, discovered by Koch in 1882, but the conditions which must be present in order that adult tuberculosis develop include something more than infection by the tubercle bacillus.[2] It is generally agreed that if a person is exposed to the tubercle bacillus long enough, he will contract the disease. The contagious nature of tuberculosis has been known for many centuries but it was not definitely established until Villemin made his notable observation that the disease developed in crowded and congested areas, and that it was readily transmitted from person to person by intimate familial contact. He associated insanitary living conditions with the dissemination of the disease. Following Villemin's contribution to the knowledge of tuberculous infection, it became increasingly evident to scientists engaged in tuberculosis work that the disease behaved differently in the mode of transmission from other contagious diseases, such as scarlet fever and diphtheria. As early as 1817, Laënnec observed that nurses caring for tuberculous patients did not all contract the disease; some seemed to be resistant to tuberculous infection, in spite of the fact that all were exposed to the same degree.

It soon became apparent that a second factor was necessary following infection in order to contract the adult type of tuberculosis. This second factor was determined to be general bodily resistance.[2] The question arises whether or not the primary phase of tuberculous infection confers any immunity. Besançon[3] presented some evidence of natural resistance; he observed that 18 per cent of children living in an infected environment, and exposed to infectious cases of tuberculosis, did not react to tuberculin. Then, on the other hand, Ch'iu, Myers, and Stewart[4] reported on the fate of children with primary tuberculosis. They found that, out of 446 children who reacted to tuberculin at the average age of seven years, 15 per cent had developed the disease or died of it within ten years, whereas of 772 children who were nonreactors to tuberculin at the average age of 6.6 years, only 1.7 per cent had fallen ill from tuberculosis when traced ten or more years later. This evidence would tend to militate against the thesis that the primary phase of tuberculosis confers any resistance.

In Europe it is generally believed that passive immunity can be conferred to newborns by inoculation with an attenuated strain of the tubercle bacillus, known as the B. C. G. vaccine. Experiments in this country by Park in New York indicate that the vaccine is innocuous, but the degree of immunity conferred is too uncertain to be relied upon. B. C. G. is not generally used in this country. It is generally agreed by tuberculosis workers in this country, at least, that immunity to tuberculosis does not exist.

At the thirty-sixth annual meeting of the National Tuberculosis Association (1940), Henry D. Chadwick,[5] in his presidential address, took as his subject, "The Subjugation of Tuberculosis." Some of the high lights of his address are as follows: "One of the great achievements of the twentieth century will be the subjugation of tuberculosis. We are far enough along in the campaign that started when the National Tuberculosis Association was organized 36 years ago to be quite certain that eventually victory will be won. We must not be too complaisant, however, as we are dealing with a very resourceful opponent who will take advantage of any weakening of our defenses to make a counter attack.

"In the early days of the Association the stress was put upon treatment, later on prevention, then on health education and on case-finding—these four together with re-

search make up the forces that under one coordinated command are now in the field doing valiant work against the disease. Much has been accomplished. The death rate has dropped 76 per cent in 40 years. We must not be content with what has been accomplished. We have far to go before our objective is gained. Sixty thousand lives a year even now are taken by the tubercle bacillus.

"The tuberculosis mortality dropped 33 and 32 per cent, respectively, in the last two decades."

Godfrey,[6] in his recent discussion of the epidemiology of tuberculosis, states that although biologic balance has been turned against the tubercle bacillus, it is quite doubtful that the specific measures for its prevention have been, in the main, responsible. He believes that these specific measures can be made more effective in the further decline of the death rate, and that the time when tuberculosis will cease to be a major public health problem can probably be reduced by one-half. He stipulates the following requirements:

(1) Ample provision of hospital beds; (2) reducing the economic difficulties which so frequently deter active open cases from entering a hospital; (3) provision for delinquent open cases; (4) better localization of the problems through better reportation of the disease; (5) more thorough investigation of household contacts in a search for sources of infection and segregation of open cases; (6) a careful consideration of the probable yield from any mass survey so as to avoid waste of time, effort, and money. For instance, the promiscuous tuberculin testing of school children does not yield many active cases, and should be condemned; (7) epidemiologic studies, and studies of death rates essential in evaluating control measures.

PUBLIC HEALTH MEASURES FOR THE CONTROL OF TUBERCULOSIS

Douglas[7] has recently stressed the importance of the so-called five point program in tuberculosis control programs. These activities which are essential in the eradication of tuberculosis are listed as follows:

I. Case finding.
II. Isolation of active cases.
III. Prompt and adequate treatment.
IV. Follow-up and rehabilitation.
V. Public health education.

I. *Case-finding.* The public health objectives in the control of tuberculosis revolve around the application of effective case-finding procedures in the search for minimal and open cases.[8] Patients with minimal tuberculosis, of course, have a much better chance for cure than those in the advanced stage.

The so-called open cases, that is, those with open cavities and positive sputum, constitute the chief source as well as the chief spreader of the infection, and therefore have the greater public health significance. It is a matter of common knowledge that only 20 per cent of the admissions to sanatoria are in the minimal stage. In all probability, tuberculosis, as a major public health problem, could be reduced to a minor one if present methods and technics were more extensively employed.

Minimal tuberculosis is usually asymptomatic and ordinarily cannot be detected by physical examination alone. It is for this reason that case-finding programs should be carried out among apparently healthy groups. Aggressive case-finding programs now in effect in many parts of the country, have resulted in the discovery of a much larger percentage of minimal cases than heretofore.

There are certain population groups which yield a large number of new cases as a result of case-finding programs, and it is necessary to concentrate attention on these groups if the anti-tuberculosis campaign is to be effective. These groups may be listed as follows:

1. Known contacts of open cases.
2. Inhabitants of congested areas where the economic level is low and insanitary conditions are present (areas of high tuberculosis mortality).
3. Certain racial and national groups: Negroes, Mexicans, Chinese, Indians.

4. Certain occupational groups: Miners and stone-cutters exposed to silica dust; printers.

5. Undernourished young women who are pregnant (pregnancy tends to light up a tuberculous infection).

6. W. P. A. workers.

7. Age groups—infants succumb readily to tuberculosis when exposed to open cases; it is rare in children from five to 14 years, and it takes its greatest toll in the age group from 15 to 45 years.

The case-finding procedures generally employed today are as follows: (1) Tuberculin testing, x-ray survey; (2) fluoroscopy survey; (3) x-ray survey.

1. Tuberculin testing — x-ray surveys. The healing of the primary phase of tuberculosis is accompanied by a changed tissue reaction so that allergy develops or sensitization of the tissues to the protein fraction of the tubercle bacillus, and this can be demonstrated by a positive tuberculin reaction. It has been determined that it takes from three to seven weeks for a positive tuberculin reaction to appear following infection.[9] It may be stated therefore that the tuberculin test plays the role of an indicator of tuberculous infection in case-finding programs and is used as a screen to separate those infected by the tubercle bacillus from those not as yet affected thusly. The program is not complete if it stops with the tuberculin test. All positive reactors should be subjected to the x-ray examination in order to determine if the infection is clinically active. Physical examination and laboratory work should be done on every known or suspected case in order to obtain the complete clinical picture.

In the past, several workers have observed the absence of tuberculin allergy in the presence of presumptive tuberculosis as evidenced by the presence of calcifications on the chest plates.[10] Long[11] points out that these cases were examples of obsolete infection and an explanation of the waning of allergy is the fact that the tubercle bacilli lodged in the primary complex are no longer viable. Long[11] and Myers[9] believe that the tuberculin reaction remains positive as long as the tubercle bacilli are viable.

The tuberculin test therefore is generally used in surveys to determine the incidence of tuberculous infection among certain population groups and to reduce the number of x-rays to be taken, and, incidentally, the expense by eliminating those individuals who are not infected. A negative tuberculin reaction means absence of infection, and, in most instances, absence of clinical tuberculous disease. However, a small percentage of very minimal healed cases and cachectic far advanced cases may lose their allergy to tuberculo-protein and react negatively to the tuberculin test.[12]

At present there is a tendency for the roentgen ray to supplant the tuberculin test in case-finding, although tuberculin testing is still enthusiastically advocated by some workers.

Myers[9] is of the opinion that the tuberculin test is still quite important. He points out that the presence of lesions too small to cast a shadow on the x-ray, and extrapulmonary primary lesions can be detected only by means of the tuberculin test. Furthermore, he cites the role of the tuberculin test in the eradication of tuberculosis in cattle as proof of its value. On the other hand, the disadvantages of tuberculin testing are as follows: (a) It is not 100 per cent accurate; (b) it requires two visits to the doctor, and four if the two-dose method is used. Through negligence, individuals may fail to return for a reading, and thus active cases may be missed.

Tice[13] has recently reported the results of a case-finding program consisting of tuberculin tests on 167,345 children with x-ray films of 27,401 tuberculin reactors. The total group examined included students from elementary and high schools chiefly, and a small percentage from colleges and trade schools. This survey yielded 586 new cases at an estimated cost of $450.00 per patient. Tice concludes that case-finding limited to the school age groups is unproductive as well as expensive. He is of the opinion that the miniature x-ray film ranks first as a case-finding pro-

cedure, although tuberculin x-ray screen still has its place. The high cost of the regular 14x17 inch film prohibits its widespread use as a case-finding procedure without screening. Tuberculin testing will be useful in diagnosing tuberculosis in infants and very young children as well as in atypical chest conditions where the sputum is negative.

2. Fluoroscopy survey. Fluoroscopy without preliminary tuberculin testing as a case-finding procedure has been used in some clinics, but has not received widespread approval. It does have certain advantages which are as follows: (a) Cheapness; (b) simplicity.

However, there are also certain disadvantages in employing this procedure which overbalance its advantages, and these are: (a) Lack of accuracy in detecting minimal lesions; (b) it is a personal interpretation of the chest condition; (c) it does not afford a permanent record. (X-ray is a permanent record.)

Block[14] and his associates advocate case-finding by means of the fluoroscope in outpatient clinics. They contend that "the clinic offers the opportunity to conduct a routine roentgenologic search of the populace without the necessity of solicitation."

3. X-ray survey. It is generally conceded by tuberculosis workers today that the most accurate and reliable case-finding tool is the x-ray, especially in the detection of minimal cases. Its advantages over tuberculin testing are as follows: (a) It requires one visit to the doctor; (b) it reveals non-tuberculous conditions such as cardiac enlargement, bronchiectasis, carcinoma, lung abscess, and the pneumonias.

In carrying out survey work it is necessary that the x-ray unit be mobile so that it may reach population groups in rural areas where chest clinics are not conducted.

The cost factor in x-ray surveys has been minimized by the development of the so-called miniature film. Potter,[15] in collaboration with the General Electric Corporation, developed the 4x5 inch miniature film which is a photograph of the fluoroscopic image of the chest.

Douglas and Birkelo[16] recently evaluated the miniature x-ray film and they came to the following conclusions: (1) The 4x5 inch miniature film is quite accurate; (only 2.6 per cent error in detecting 271 patients with active tuberculous lesions as found in the full size film taken of 1,610 persons); (2) it is economical and can be rapidly applied to large numbers for survey purposes, one per minute.

Dearing[17] has recently reported on chest fluorography with portable x-ray equipment on 35 mm. film. He states, "A roentgenographic examination which costs no more than a tuberculin test would have the advantage of ready acceptance by the public, the administrative simplicity and economy to the individual of a single instead of two or three clinic visits, and would provide information about chest pathology in every case. Fluorography is the one procedure that gives promise of accomplishing this objective."

Over 1,000 persons were examined by Dearing with both the conventional and micro-films. He concludes from his experience that there is need for further development of technics and materials, but that fluorography with 35 mm. film and portable x-ray equipment offers promise as a practicable procedure for screening purposes and for large scale tuberculosis case-finding in rural areas at reasonable cost.

The equipment for taking 35 mm. films has been accepted by the Army, the Navy, and the Selective Service Boards. In reading these films, however, direct magnification with a lens is necessary.

The Louisiana State Department of Health[18] expects to have one of these new 35 mm. fluorographic units mounted on a truck in the near future. X-ray surveys will then be carried out on large school groups, inmates of institutions, and industrial groups without preliminary tuberculin screening.

II. *Isolation of active cases.* It is necessary to isolate active cases in order to check the spread of the infection by removing the source (patients) from circulation. In this connection the question of sanatorium

versus home care arises, and it may be said without fear of contradiction that sanatorium care is the preferable regimen. The advantages of sanatorium care are as follows: (1) Proper medical and nursing facilities are readily available; (2) the patient is relieved of family worries while in the sanatorium; (3) education and hygienic measures for preventing the spread of the infection are afforded by the sanatorium; (4) collapse therapy is best initiated in the sanatorium. It is good public health practice to confine the patient in the sanatorium until cavities are closed and the sputum is negative so that he is no longer a menace to the public health.

The generally accepted standard for the provision of beds for the tuberculous is two beds per annual death. It might be wise to utilize idle beds in general hospitals for the temporary care of tuberculous patients in case of shortage of sanatorium beds.

If the patient cannot go to the sanatorium because of a shortage of available beds, as is often the case in Louisiana, then it is the province of the public health nurse to make regular home visits at least at monthly intervals for the purpose of instructing the patient and members of the family regarding the proper disposal of infected sputum, general hygienic measures, danger of intimate contact, as well as details of concurrent and terminal disinfection of the room and eating utensils. During these home visits, sputum specimens should be collected regularly from the patient and a check should be made on isolation.

III. *Prompt and adequate treatment.* Passing on to point three of the tuberculosis control program, it may be said that the modern treatment of pulmonary tuberculosis calls for the extensive employment of collapse therapy procedures in selected cases. All collapse therapy is aimed at putting the diseased part of the lung at complete rest so that healing may occur, thus rendering the patient non-infectious. Artificial pneumothorax is the most widely used of all procedures, and requires the simplest technic. It may also be considered the most valuable public health measure in checking the spread of the infection, and for this reason should be more extensively employed.

In artificial pneumothorax, air is introduced into the pleural space between the lung surface and chest wall at regular weekly intervals; oftener after the initial injection, in order to collapse the diseased portion of the lung and to keep it collapsed until cavities are closed and healing has been accomplished. Artificial pneumothorax is best started in the sanatorium, but after a satisfactory collapse has been obtained, refills may be given by an ambulatory pneumothorax clinic or the outpatient department of the sanatorium. Ambulatory pneumothorax clinics are of value in rural areas where sanatoria and men trained in pneumothorax therapy are not available.

Artificial pneumothorax has its most valuable indication in moderately and far advanced cases, especially those with an open cavity and positive sputum. Pneumothorax may be unilateral or bilateral.

Although the technic of artificial pneumothorax is quite simple, there are certain important complications which may occur and these require treatment. They may be enumerated as follows: (1) Pleural effusion; (2) spontaneous pneumothorax; (3) air embolism; (4) pleural shock.

The ultimate objectives of artificial pneumothorax may be listed as follows: (1) Closure of cavities; (2) elimination of positive sputum; (3) control of symptoms; (4) arrest of both pulmonary and pleural disease; (5) restoration of patient's working ability.

IV. *Follow-up and rehabilitation.* This step in the tuberculosis control program is quite important and has been neglected to a considerable degree in the past. In locations where there are tuberculosis sanatoria, the outpatient department provides for adequate follow-up. In other localities it is the province of the health department to carry on this activity. This group may yield a large number of spreaders of the infection if adequate medical follow-up is not provided.

It is very important that the tuberculous patient be able to take his place in the community and to earn his own living after he has completed his cure. The National Tuberculosis Association is now making a study of the problem of rehabilitation for ex-patients and it is hoped that some suitable arrangement can be made in the future for their employment. Occupational therapy during convalescense will help a great deal in preparing ex-patients for the task of earning a livelihood.

V. *Public health education.* The final point in the tuberculosis control program, namely, public health education, is indispensable for its successful administration. The methods in general use are: (1) Visual education (by means of moving pictures); (2) lectures before civic and service groups, Parent-Teacher Associations, high school and college students; (3) distribution of popular literature to these groups.

In order to create an awareness of the existence of this major public health problem, it is necessary to keep the public informed on the general subject of tuberculosis control in order to obtain its endorsement and support. The local situation should be emphasized in this educational campaign. In other words, it is necessary to sell the tuberculosis control program to the public in order to obtain necessary financial support for carrying it through.

THE TUBERCULOSIS PROBLEM IN LOUISIANA[19]

The following is a summary of the facts regarding the tuberculosis problem in Louisiana as recently formulated at the conference on tuberculosis, New Orleans, Louisiana, October, 1940, under the headings of:

I. Situation.

II. Cause.

III. Remedy.

I. *The situation*: Louisiana's tuberculosis death rate is more than 50 per cent higher than the average for the United States.

II. *The cause*:

(1) Louisiana has never provided adequate care for its tuberculosis citizens. There is less than one bed per death; the standard is two beds to every death.

(2) As a result, infectious cases of tuberculosis are mingling with the population at large, and spreading tuberculosis to their contacts in the family and community.

(3) Louisiana has never provided adequate relief for the families of tuberculous patients. It is impossible to keep the head of the family in a hospital unless adequate financial provision is made for the family.

(4) Because of lack of beds, no systematic case-finding campaign has ever been conducted in the State. Early cases are allowed to become advanced cases and to infect other persons before they are hospitalized.

III. *The remedy:*

(1) Additional beds for tuberculosis should be provided throughout the State immediately; funds must come from taxation provided for by legislative appropriation. At the present time the tuberculosis control campaign is being conducted throughout the State of Louisiana to secure additional beds for tuberculous patients. Louisiana today has about one-fourth of the total number of beds required for this State.

(2) Until additional beds are provided, the tuberculosis death rate will continue to be conspicuously and dangerously high.

SUMMARY

1. The tuberculosis mortality rate for the United States has gradually declined during the past two decades so that this disease now ranks seventh or eighth as a cause of death. It used to be the leading cause of death.

2. Louisiana has not kept pace with the progress made by many other states in the control of tuberculosis.

3. The public health measures in general use for the control of tuberculosis are as follows:

(a) Case-finding.
(b) Isolation of active cases.
(c) Prompt and adequate treatment.
(d) Follow-up and rehabilitation.
(e) Public health education.

4. A summary of the facts regarding the tuberculosis problem in Louisiana is

presented. There is an acute shortage of beds for the tuberculous patients of Louisiana.

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GALLBLADDER DISEASE*

IMPORTANT CLINICAL CONSIDERATIONS

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Cholecystitis and cholelithiasis are indisputably among the most frequent abdominal diseases; so I have elected to lay before you some clinical facts and ideas which may prove helpful in the evaluation of abdominal symptomatology in relation to gallbladder disease.

ETIOLOGY

Diagnosis of this condition is greatly facilitated by recalling that it is found two to five times oftener in females than in males, and that pregnancy is frequently a definite factor. I am convinced that obesity, lack of active exercise, sedentary habits and constipation play important roles in the etiology of gallbladder disease, particularly in those of advancing years.

Disturbances of cholesterol metabolism, infection, and factors toxic, mechanical and chemical also figure largely in the initiation of primary pathologic changes in the gallbladder.

From the standpoints of diagnosis and therapy it is well to realize that the infecting organisms are found oftener in the wall of the gallbladder than in the bile; a mild controversy still exists as to which organism is the chief offender; some claim the colon bacillus as the most frequent, others maintain the supremacy of the streptococcus.

In recent years, various authors have considered disturbances of cholesterol metabolism an important factor in the inauguration and continuation of gallbladder disease; they have asserted that certain types of gallbladder disease may be entirely of metabolic origin. Potter[6] is committed to the opinion that motor disturbance and cholesterol disorders are more likely to be factors in cholecystic disease in pregnant women than are infection and mechanical disturbances.

The rapidity with which gall stones are formed is an interesting question; many authorities believe that in most cases a group of stones of the same crop may develop within a few months. Mentzer[5] cites a very interesting case in which a soft stone was found in a gallbladder a few days after two stones had ben removed at operation.

Some observers doubt that bacteria are ever the primary cause of stone formation,

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rather leaning toward the belief that the formation of stones of varying types may be due to physical phenomena in relation to local or general metabolic disturbances or imbalances. I am definitely of the opinion, however, that bacteria do play either a primary or a secondary role in gallbladder disease.

Walters and Snell[10] state that despite the fact that practically all primary malignancies of the gallbladder are associated with stones, the mortality from the removal of stones, although very small, is nevertheless greater than the frequency of primary malignant neoplasms.

Close study of these cases will yield the surprising discovery that gallbladder disease is often accompanied by duodenal ulcer, and not infrequently by chronic appendicitis; furthermore, possibly due to ascending infection, chronic changes in the liver may occur. Because of these established facts one may well question the effect of reflex action in relation to infection and metabolic changes.

The close relation between disturbances of the liver, gallbladder, and their passages, and the stomach and duodenum, is easily explained; there is an intimate embryologic connection between these organs anatomically, physiologically and pathologically.

It has been suggested that changes in the stomach and duodenum caused by reflexes emanating from a diseased appendix may in turn disturb the function-mechanism of the liver-gallbladder area, thereby interfering with secretion, storage and outflow of bile, and conceivably leading to stone formation and infection. Thus the importance of correlating diseases of the gallbladder with disturbed conditions in the liver, stomach, duodenum, pancreas, appendix, and large intestine, is readily realized.

One must never forget that while gallbladder disease is not hereditary, it does occur in a high percentage throughout some families, particularly those harboring obesity, arteriosclerosis, migraine and diabetes.

Another vital fact is that the gallbladder and its mucosa possess the power of recuperation in high degree; pathologists state that even after successive attacks the only evidence of disease may be pericholecystic adhesions. I am convinced that acute, infectious, catarrhal cholecystitis frequently masquerades as mild or moderately severe functional dyspepsia, misinterpreted as secondary to dietetic indiscretions or to tension and strain after physical or nervous fatigue; this mistake is due to the fact that even if stones are present the attack is likely to be mild unless the cystic duct is occluded. In such cases, if I obtain a history of pain of a continuous aching character even though quite mild, tending toward radiation and projection to the back and to the lower angle of the right scapula, then I feel justified in suspecting the gallbladder as the offending organ.

I am particularly anxious to emphasize that pain, chills, fever, leukocytosis and even jaundice, may be present in cholecystitis, hepatitis and cholangitis; such symptoms and diseased states may and do exist in the absence of stones, and yet the process may eventuate in suppuration and even perforation.

Walters and Snell[10] direct attention to a septicemic variety of acute cholecystitis, and believe that this represents one of the most severe and fulminating types; they stress the fact that this condition is at times associated with subacute and bacterial endocarditis. It would seem wise in such cases to obtain a blood-culture.

In all gallbladder cases we should continue, as in the past, to search for a history of typhoid fever, since it has been definitely proved that typhoid bacilli may be dormant in the gallbladder for many years and then in some occult manner set up an acute suppuration.

Occasionally one will witness a very sudden and severe attack of acute cholecystitis with stones, wherein it is impossible to obtain a history of previous disturbances in any way tending to incriminate the gallbladder as the offending factor; because of this, the physician is often completely baffled and unable to satisfy himself that the gallbladder is the organ at fault; this

failure to recognize the true cause of symptoms all too often leads to serious results.

QUESTION OF OPERATION

I long ago reversed my former attitude of complacency toward acute cholecystitis, since experience taught me that many cases treated medically, proceed rather rapidly to suppuration, a state of empyema and finally perforation. I think one is perhaps justified in saying that empyema is the commonest lesion seen at operation for acute cholecystitis. In these cases a high leukocyte count with a large percentage of polymorphonuclears is the rule, and should prove of decided diagnostic aid. Gangrene of the gallbladder is caused by organisms of a very virulent type and is practically always precipitated by a stone occluding the cystic duct.

Opinion in regard to operative procedure in acute gallbladder disease has undergone a radical change during the past few years, and most authorities have abandoned the "cooling off" period, and urgently recommend prompt operation. Division of opinion is concerned with immediate or early operation as opposed to late surgical interference. Stone and Owings[8] advise prompt operation, considering that such action saves time, pain, expense and danger.

Smith[7] thinks patients with acute cholecystitis should not be operated on immediately upon hospitalization without an urgent indication; however, younger patients in good condition may be operated upon after a day or two of preparation, without waiting for the attack to subside. In poorer risks, if the course under observation is satisfactory, it is wiser to allow the acute attack to "cool off."

Judd and Phillips[4] assert that the present tendency is to carry out surgical treatment early in cases of acute cholecystic disease. They subscribe to the plan of early operation in acute cholecystic disease, yet feel that there are certain instances when surgical treatment should be postponed.

Walters[9] believes that if the patient is seen in the early stages of the attack, operation can be carried out with safety. On the other hand, if the patient is not seen until the second or third day of the attack, and infection then appears to be subsiding, he has sometimes found it advantageous to delay operation for one or more days.

There is a group of patients for whom cholecystostomy is indicated, that is, the obese or elderly in poor condition. Certainly no one would feel that a well-nigh inaccessible, acutely inflamed organ should be removed from an extremely sick person.

Cave[1] concludes that the majority of surgeons are obtaining better results by waiting from one to five days before operating on patients suffering with acute cholecystitis. Time is thus given for the acute inflammatory process to subside, and the patient is offered the opportunity to be properly prepared for the shock of a major surgical procedure.

Eliason and North,[3] however, express the opinion that early surgical measures in the acute attack as well as in the course of the disease will reduce mortality and morbidity.

While I am unhesitatingly in favor of early operation, individualization should be the watchword, and every patient treated as a law unto himself, demanding intense study and a judicial attitude.

Let me here emphasize a point which merits earnest consideration; that is, the involvement of neighboring organs when acute inflammation of the gallbladder occurs. Should the pain shift to the left upper quadrant or extend to the lumbar region, suspicion should at once be directed toward the pancreas; furthermore, if shock and rigidity of the abdomen appear, one should strongly suspect the onset of hemorrhagic pancreatitis with an accompanying fat necrosis; involvement of the liver is also a constant latent possibility.

DIFFERENTIAL DIAGNOSIS

I can mention only briefly several important disease entities which should always be envisaged when symptoms of acute gallbladder disease are presented: (1) Active pylonephritis or hydronephrosis; (2) peptic ulcer; (3) appendicitis; (4) liver disease—including hepatic syphilis; (5) coronary occlusion.

In regard to cholecystography, now established as a most valuable adjunct in the diagnosis of gallbladder disease, I urgently advise against depending upon this method as a "court of last resort" in the diagnosis of gallbladder disease. It must be remembered that the procedure is by no means infallible, as proved by the statement of Kirklin that in from 8 to 10 per cent of normal response the gallbladder is nevertheless diseased. When all signs and symptoms point to gallbladder disease, although cholecystographic findings do not bear them out, I prefer rather to be guided by clinical experience and medical intuition than by mechanical procedure.

A word of warning as to prognosis in such patients with indefinite dyspepsia who are subjected to exploratory laparotomy with removal of a suspicious, non-calculous gallbladder; my experience in such instances has been anything but satisfactory, the morbidity being excessive and results usually most discouraging. Hence my adjuration not to offer the patient too much in the way of optimistic promises.

Let us consider briefly a few of the outstanding symptoms indicative of non-calculous and calculous forms of gallbladder disease. One or both of these conditions may masquerade in the form of a peptic ulcer syndrome; some authorities have placed the estimate as high as 25 per cent, and here a difficult situation is encountered because peptic ulcer and gall stones frequently coexist.

In gallbladder disease the symptoms are usually less clean-cut than in peptic ulcer, and not nearly so constant and regular. There is much flatulent dyspepsia and bloating, with epigastric discomfort and aching after meals, sometimes temporarily relieved by belching; the type of pain is extremely variable, and frequently constant in the right upper quadrant; it is often aggravated by the intake of food and by jarring or jolting.

If there is an accompanying infection of the bile passages, fever may be present, and not infrequently slight transient jaundice may be noted even in non-calculous cases. General symptoms such as exhaustion and fatigability, with attacks of vertigo and migraine type of headache are not infrequent. Bouts of diarrhea are at times noted, and pericholecystic adhesions may disturb the pyloric-duodenal mechanism, thus interfering with the motor function of the stomach; this may in turn produce bizarre and puzzling symptoms.

Physical findings, especially in the non-calculous type, are in many instances of little or no consequence, though soreness and tenderness in the gallbladder area are sometimes present, and it is often possible to palpate a distended gallbladder as well as a swollen liver.

A possibility which should always receive consideration is stasis gallbladder, wherein there has been an interference with evacuation of this organ, often causing pain, colic, dyspepsia and other symptoms of organic cholecystic disease of severe degree. While it has been proved that in these cases there may be little visible evidence of either infection or cholesterosis, yet removal of the gallbladder will in most instances relieve the symptoms. Snell states that there are two explanations for this phenomenon: (1) That associated hepatitis and cholangitis are responsible for the symptoms,—an hypothesis which certainly does not apply in all cases; (2) that the symptoms may be produced by abnormalities of evacuation of the gallbladder, such as stasis or contraction against a spastic sphincter, with secondary or reflex disturbances in the digestive tract. On the other hand, according to Ivy, the functional causes of stasis are: (1) Duodenal irritation and inflammation; (2) reversed duodenal peristalsis; (3) spasm of the sphincter of the choledochus attributable to reflex motor disturbances or inflammation of the ampulla of Vater; (4) motor inactivity of the gallbladder owing to an inadequate diet with deficiency in the intake of meat, fat and fruit juices; (5) an abnormally small cystic duct; and (6) the presence of a sphincter in the cystic duct.

On the other hand, some authorities claim that definite gallbladder syndrome is produced by atony of the gallbladder. In such

a condition, however, it is rather difficult to understand the underlying mechanism in the production of pain.

The diagnosis of cholelithiasis and cholecystitis is not nearly so simple as would appear at first glance. Many people are found who harbor stones who apparently have never suffered from the presence of the stones. It must never be forgotten, however, that the effects of stones may be infective and mechanical, and if the condition is allowed to proceed there may ensue subacute and chronic cholecystitis, with progressive destruction of the mucous membrane, thickening and fibrosis of the wall of the gallbladder, and pericholecystitis. The possibility of infection of the wall of the gallbladder and its fluid contents in the presence of obstruction of the cystic duct must be carefully considered, for in these cases acute and chronic empyema are often the end results, and we may all too frequently find an associated hepatitis and cholangitis.

From a mechanical standpoint, stones may produce ulceration of the mucous membrane, ultimately leading in some instances to profuse bleeding.

SYMPTOMS OF CHOLELITHIASIS

The symptoms and signs of cholelithiasis are legion, and I shall present only a few of the more important. In correlating them one is aided by recalling Rolleston's classification, which is: (1) The masked or inaugural symptoms; (2) biliary colic; (3) mechanical effects; (4) inflammatory and infective sequelae; and (5) fistulas connecting the gallbladder with other organs.

In general we know that these cases are characterized by persistent and severe dyspepsia of the gaseous type, accompanied by fullness, distress, belching, vague nausea and flatulence greatly aggravated by coarse, fatty types of food. Syndromes distinctly indicative of ulcer are often encountered, and it must be remembered that not infrequently peptic ulcer and gall stones coexist. Outbreaks of diarrhea are often noted. Because of pericholecystic adhesions there may be an involvement of the duodenum and pylorus, thus eventuating in mechanical difficulty in the emptying of the stomach.

My suspicion of gallbladder disease is always aroused in patients presenting a dull, constant pain in the region of the gallbladder; also it is important to realize that pain from this source may be encountered in the region of the lower ribs posteriorly and has been mistaken for lumbago. Jolting and pressure aggravate pain on occasions, and often the patients will protest the wearing of tight articles of clothing.

I must emphasize that colic is not always indicative of the presence of stones, though nocturnal seizures are quite characteristic of biliary colic.

I think it vastly important to recognize the fact that pain which lasts for several hours or days may be taken to indicate the development of an inflammatory process in the gallbladder or an impaction of stone in the cystic duct.

One should be eternally vigilant to note any symptoms or signs which may be indicative of the beginning of a suppurative process, empyema or gangrene; those signs which are at times ominous consist of fever, leukocytosis, and a rapid erythrocytic sedimentation time.

It has been my experience that a possible injury to the pancreas is not considered, as it should be, in every case, especially when there is a stone in the ampulla. In these cases acute suppurative or hemorrhagic pancreatitis with fat necrosis may occur, though most often the ultimate result is a chronic pancreatitis with local induration and edema.

The diagnosis of pancreatic involvement due to the mechanical effects of stone is not an easy one. Violent, agonizing pain with shock; prostration, high fever, and leukocytosis accompanied by abdominal rigidity should definitely direct one's attention to the possibility of acute pancreatic necrosis.

During the past few years various observers have been impressed with the value of the blood amylase test as a dependable procedure in the diagnosis of acute pancreatitis. There is an increase in blood amylase only in acute pancreatitis; the level

rises to 150 from its normal 90, in a very few hours, and may reach 1000 after one or two days. It has been asserted that urinary diastase has equal diagnostic value with blood amylase. On the other hand there are no pathognomonic symptoms indicative of chronic pancreatitis.

COMPLICATIONS

As to the possibility of intestinal obstruction by gall stones, the most likely points are the small intestine at the lower end of the ileum just above the ileocecal valve, and duodenum, and any areas in the large bowel which may be bound down or angulated by adhesions. There are no characteristic signs indicative of this type of obstruction, and the condition is quite rare, though eliciting a previous history of biliary colic or other evidence of acute cholecystic disease should arouse suspicions of this possibility.

The possible presence of biliary fistulas, internal and external, should be borne in mind, for gall stones have been known to migrate to the renal pelves, the urinary bladder, the bronchi, the pleural cavities, the pregnant uterus and even the ovarian cysts. The types most commonly encountered, however, are cholecystocolonic and cholecystoduodenal fistulas which may be revealed only at operation or autopsy.

According to Wangensteen,[11] protracted external biliary drainage may bring about interference with digestion of fat, and the loss of minerals and of fat-soluble vitamins, thus ultimately interfering with nutrition. Studies by Greaves and Schmidt tend to prove that the absorption of vitamins B, E and D is deficient or absent when bile does not reach the intestinal tract, a point of great importance in treatment. These investigators have also called attention to the fact that substances necessary for the coagulation of the blood and for the formation of prothrombin similarly require bile for their absorption. In the presence of a complete external biliary fistula a fatal hemorrhagic diathesis may develop after attempted surgical repair; this situation is quite obviously attributable to lack of absorption of fat-soluble materials (vitamin K) from the intestinal tract.

I urgently advise that at the time of taking cholecystograms, roentgenograms also be made of the kidneys, ureters and urinary bladder; there is no gainsaying the fact that renal stones often inaugurate attacks exactly counterfeiting outbreaks of biliary colic; we must also remember that gall stones and renal stones are at times present in the same individual. Another condition which may lead one astray is diaphragmatic hernia, since this condition may also masquerade as biliary colic. Of vital importance in all cases is the thoughtful consideration of angina or coronary occlusion, which often simulate acute or subacute cholecystitis. Other conditions which should receive consideration are hepatic syphilis, amebic hepatitis, and cirrhosis; it is remarkable how frequently the diagnosis of cholelithiasis has been made in cases of cirrhosis. In not a few instances crises of plumbism and tabes doralis have been mistaken for biliary colic; still other disease entities to be pondered are hemolytic icterus, lesions of the appendix and cecum, gastrointestinal allergy, herpes zoster, root-pain of tumors of the spinal cord or of Pott's disease; aneurysm of the descending aorta, and various types of pleurisy, especially the pyogenic or tuberculous. It is interesting to note that cholecystitis with stones seems to develop with more than ordinary frequency among patients afflicted with diabetes.

SUMMARY

From what has been said, it is obvious that we should be more gallbladder conscious, especially as various authorities place the incidence of gall stones in adults at from 5 to 20 per cent. Mentzer[5] reported, in relation to 633 postmortem examinations performed at the Mayo Clinic, that the gallbladders of 21.7 per cent of adults contained stones; and Crump,[2] in a series of 1000 postmortem examinations, found stones in the biliary tract in 32.5 per cent; after the seventh decade of life the incidence was 50 per cent. All authorities agree that cholelithiasis is found two to five times more often in women than in men.

Stone in the common duct, and many other phases of gallbladder disease remain

to be considered; but since time forbids further discussion, I shall trust that at least a few interesting and diagnostically important facts not generally known or considered have been clearly presented, and that this knowledge will on future occasions prove of some significance to my auditors.

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DISCUSSION

Dr. J. E. Knighton (Shreveport): Dr. Gaither, in his characteristic manner, has so completely and thoroughly presented every phase of this subject that very little remains to be said except perhaps to emphasize a few of the points which he discussed.

Regarding differential diagnosis, it is a well known fact that a gall stone attack frequently presents a clinical picture which very strongly resembles that of coronary occlusion or angina pectoris.

I am reminded of a case that I had the privilege of seeing through the courtesy of a doctor friend, who had made a tentative diagnosis of angina pectoris. Physical examination disclosed the fact that there was well defined tenderness to deep pressure in the right subcostal region. This gave me the impression that we were dealing with gall stones. This impression was justified by a subsequent attack which was associated with jaundice. Operation revealed a gallbladder filled with stones, and patient made a good recovery, and there were never any recurrent symptoms suggestive of angina pectoris.

With reference to the gangrenous gallbladder with rupture, I can recall several cases in which numerous gall stones together with pus, mucus, and altered bile were found in the peritoneal cavity at operation with no apparent effort on the part of nature to circumscribe this foreign material by adhesions. Very much to my surprise, all these patients recovered.

Dr. Gaither referred to gallbladder infections following typhoid fever. I recall very distinctly having seen a patient years ago who gave a history of numerous gall stone attacks that were preceded by typhoid fever fifteen years previously. This patient was operated upon and cultures from the gallbladder contents revealed typhoid bacilli.

Reference has been made to pancreatic pathology following gallbladder infections. I have had occasion in numerous instances to demonstrate the absence of pancreatic ferments in the duodenal contents of patients who had suffered from common duct obstruction.

Dr. Ernest H. Gaither (in closing): I want to emphasize one point, and that is in regard to handling cautiously a case of acute cholecystitis. As stated, I have reversed my attitude of complacency when dealing with acute gallbladder disease.

In acute cholecystitis, I have two or three differential and leukocyte counts made during the day, and watch the temperature every two hours, and when possible, have special nurses; in ward cases I have them supervised with the greatest care. I am an advocate of early operation, and when I see a patient in the early stage, in the absence of toxicity and dehydration, I advocate surgical interference. However, if the patient has been ill for several days, and toxic manifestations are present, I prefer, if possible to wait for several days, during which time active measures are applied to overcome this untoward condition. In the acute case, there may be a quick flare-up and then a rapid reversal of all symptoms and after 24 or 48 hours another flare-up. In such cases quite frequently, much to your chagrin and embarrassment a gangrenous gallbladder or one that has ruptured is discovered.

AN ANALYSIS OF 220 CASES OF ECLAMPSIA FROM CHARITY HOSPITAL OF LOUISIANA AT NEW ORLEANS*

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The 2,265,588 live births which occurred in the United States in 1938, the last year for which complete figures are available, were associated with 10,084 maternal deaths, 2,521 of which, approximately 25 per cent, were due to the toxemias of pregnancy. During the five-year period ending January 1, 1941, the 22,499 live births which occurred at Charity Hospital of Louisiana at New Orleans were associated with 168 maternal deaths, 0.007 per cent. During the same period approximately 2,500 cases of various toxemias of pregnancy were observed at Charity Hospital, of which 220 cases were instances of eclampsia.** The 220 cases of eclampsia were associated with 19 deaths, 8.6 per cent (table 1). Eclampsia thus accounted for approximately 8.8 per cent of all cases of toxemia of pregnancy observed at Charity Hospital during the period under discussion, and deaths due to eclampsia accounted for 11.3 per cent of all maternal deaths during this period. It is estimated that the general incidence of toxemia of pregnancy in the State of Louisiana is roughly 10 per cent.[1]

One of the most significant aspects of this analysis of eclampsia at the New Orleans Charity Hospital is the gradual decrease in incidence during the last five years, and the improvement in mortality over the same period. As table 1 shows, the incidence decreased from 1.18 per cent in 1936, the first year of the analysis, to 0.73 per cent in 1940, the last year, while the mortality decreased from 12.5 per cent in 1936 to 0 in 1940.

TABLE 1

INCIDENCE AND MORTALITY OF ECLAMPSIA AT CHARITY HOSPITAL 1936-1940

Year	Deliveries	Eclampsia	Incidence in Per cent	Deaths	Mortality in Per cent
1936	4,040	48	1.18	6	12.5
1937	4,120	45	1.09	5	12.2
1938	3,902	48	1.23	4	0.83
1939	5,100	40	0.78	4	1.0
1940	5,337	39	0.73	0	0.00
Total	22,499	220	0.98	19	8.6

The cases of eclampsia were distributed fairly evenly throughout the year, although it is frequently stated that the incidence is seasonal. Sudden changes in barometric pressures may perhaps play some part in the causation of the condition, but we have at present no data on this point.

RACIAL DISTRIBUTION

Eclampsia has a disproportionate racial distribution at the New Orleans Charity Hospital. Seventy of the 220 cases occurred in white patients, 31.8 per cent, and 150 in negroes, 68.1 per cent, which is a ratio of roughtly 1:2. During the same period, however, the ratio of white to negro deliveries was roughly 3:5 (8,403 white and 14,096 colored). The mortality in the white and negro cases is also somewhat disproportionate; 14 negro women died, 9.3 per cent, and five white women, 7 per cent. The negroes thus furnished slightly more than two-thirds of the total incidence and slightly less than three-quarters of the total mortality.

Few series in the literature offer any basis of comparison with the New Orleans figures from the racial standpoint. To physicians who handle negro patients, however, and who know their disregard of the ordinary laws of hygiene and the casual manner in which they accept their pregnancies, it is not surprising that the negro

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**The term eclampsia as used in this paper indicates convulsions due to a specific toxemia which occurs during the last months of pregnancy and is usually associated with hypertension, edema and albuminuria. Every patient in the series had one or more convulsions. Cases of convulsions due to nephritic toxemia are not included.

incidence of eclampsia as well as the negro mortality is higher than the white. On the other hand, in one respect, at least, the figures cannot be taken entirely at their face value, for white patients with eclampsia are treated in several other hospitals in the city and in smaller hospitals throughout the state, whereas with few exceptions negro patients from both city and country are treated at the New Orleans Charity Hospital.

DISTRIBUTION ACCORDING TO PARITY AND STAGE OF GESTATION

One hundred seventy patients were primiparae, 115 colored and 55 white, of whom eight died, 4.7 per cent. Fifty were multiparae, 32 colored and 18 white, of whom 11 died, 22 per cent. The high incidence of eclampsia in primiparae is in accord with the experiences of practically all obstetricians, while the disproportionately high mortality in multiparae is also what might be expected. The complications of pregnancy which occur after the first gestation are likely to be severe, and we are not alone in having a wholesome respect for their risks in the patient whom we have begun to describe as "the dangerous multipara."

One colored patient had had 10 previous pregnancies, and in four patients convulsive seizures had been present in other pregnancies. Some writers contend that eclampsia confers an immunity in future pregnancies, but most series, just as this one, show one or more instances of recurrence.

One hundred ninety patients were between the thirty-fifth and fortieth weeks of pregnancy when eclampsia developed, and the remainder were between the twenty-sixth and thirty-fifth weeks. Ten of the patients who died were within 10 days of term, and the other nine were between 10 and 30 days of term.

One hundred eighty-five patients, of whom 14, 7.6 per cent, died, had convulsions before labor. Twenty, of whom three, 15 per cent, died, had convulsions during labor. Fifteen, of whom two, 13.3 per cent, died, had convulsions after labor. In the three fatal intrapartal cases the patients died undelivered. Eclampsia is most frequent before labor sets in, but it is very necessary, as these figures show, to watch patients with severe pre-eclampsia while they are in labor and during the immediate postpartal period, when added stress and strain are often enough to precipitate convulsions.

The declining incidence of eclampsia at the New Orleans Charity Hospital, as well as the uneven racial distribution and mortality, are very closely associated with the matter of adequate prenatal care. Though the cause of eclampsia is unknown, it is still possible to prevent its development in most instances by the proper supervision of the pregnant women throughout the period of gestation. Reduced to its essentials, adequate prenatal care may be defined as the early registration of the patient; constant and intelligent supervision throughout the period of gestation, with the object of detecting possible abnormalities in their earliest stages; and the immediate institution of necessary therapy when the earliest signs and symptoms of any abnormality are discovered. Such adequate care, it should be emphasized, implies not only the provision of care by the clinic and the physician but the cooperation in that care by the patient herself.

An examination from the standpoint of adequate prenatal care of the 220 cases of eclampsia observed at the New Orleans Charity Hospital during the last five years reveals certain interesting and significant facts. In not a single one of these cases was prenatal care, by the terms of our definition, in any sense adequate. In 200 cases, almost 90 per cent of the total, the patients had no care of any kind. In the remaining 20 cases such care as they had was entirely inadequate by modern obstetric standards.

In the specific toxemia of pregnancy, the earliest warning symptoms and signs are excessive, rapid gain in weight and rise in blood pressure, with or without albuminuria and edema. In every instance in this series subsequent questioning showed that the convulsions had been preceded by these

symptoms or signs, and that many of the patients had complained, in addition, of severe headache, sometimes associated with blindness, epigastric pain, nausea and vomiting, backache and dizziness. In other words, if prenatal care had been adequate, there seems little doubt that most if not all of these cases could have been detected and checked in their incipiency.

In this connection, it is interesting and significant that during the past two years, not a single instance of eclampsia has occurred in the Charity Hospital outpatient clinics among pregnant women who have cooperated in the regimen of prenatal care outlined for them. Investigation of every instance of eclampsia which has occurred among the clinic patients has shown that the women in question either attended the dispensary irregularly or failed to carry out the instructions given them. In this respect, as has been pointed out, negro women are far more likely to be at fault than white women.

MORTALITY IN RELATION TO THERAPY AND MODE OF DELIVERY

The management of eclampsia involves three considerations: (1) Its prevention by adequate prenatal care; (2) the termination of the pregnancy, without regard to the stage of gestation, if pre-eclampsia cannot be controlled by adequate therapy; (3) if eclampsia has definitely set in, the control of convulsions by sedatives; methods to induce dehydration and diuresis, with the object of improving the patient's general condition; finally, delivery with as little trauma as possible, within an optimum time after convulsions have been controlled, with full regard to obstetric indications. All obstetric literature bears witness to the fact that the mortality of eclampsia began to improve almost as soon as accouchement forcé and other traumatic methods of delivery were eliminated and attention was shifted from the immediate termination of the pregnancy to the control of the convulsions and the general status of the patient.

The improvement in mortality in the last years of this study is a reflection of the fact that the management of eclampsia at the New Orleans Charity Hospital, generally speaking, is now conservative. Spontaneous delivery occurred in 157 of the 220 patients, more than 71 per cent, but the break-down of these figures is interesting. During the last two years of the analysis 63 of the 79 patients observed, 78.4 per cent, delivered spontaneously, as compared with 94 of the 141 patients observed in the first three years, 66.6 per cent. The change is in accord with the observations that most eclamptics, if labor is induced by simple means and if no obstacles to normal delivery are present, will deliver spontaneously without further interference with physiologic processes.

It is evident from table 2 that the mortality in eclampsia is highest in patients delivered by traumatic methods. The three deaths which occurred in the 157 patients delivered spontaneously all occurred in women who were moribund on admission. As compared with this mortality of 1.8 per cent is the 21.6 per cent mortality (13) which occurred in the 52 patients delivered by various operative measures.* In all of these deaths, control of the eclampsia had not been fully accomplished when the traumatic procedure was undertaken. There is every reason, on the basis of these comparative results, for the shift to non-traumatic methods of delivery evident during the last years of this study.

On the other hand, these figures must not be misinterpreted. Even in eclamptic pa-

TABLE 2

MORTALITY IN 220 CASES OF ECLAMPSIA IN RELATION TO METHODS OF DELIVERY

Methods of delivery	1936-1938			1939-1940		
	Cases	Deaths	Per cent	Cases	Deaths	Per cent
Spontaneous	94	2	2.1	63	1	1.6
*Forceps	14	2	13.6	5	1	20.0
**Section	9	1	11.1	7	0	0.0
Metreurysis	10	3	30.0	2	1	50.0
Version and extraction	8	4	50.0	2	1	50.0
Craniotomy	3	0	0.0	0	0	0.0
Undelivered	3	3	100.0	0	0	0.0
Totals	141	15	10.6	79	4	5.06

*18 low, 6 mid
**16 low, 4 classical

*The three women who died undelivered are omitted from these calculations.

tients delivery must be carried out according to established obstetric indications. Forceps should be applied and version and extraction should be performed when these procedures are indicated, and cesarean section should be undertaken when it is necessary. A certain latitude of indications is also wise. It is more conservative, for instance to deliver a primipara with a long, closed cervix and possible fetopelvic disproportion by low cervical cesarean section under local analgesia than to insert a bag and accomplish delivery later by version and extraction, for the former procedure is associated with far less trauma than the latter.

Failure to institute therapy promptly and to appreciate the optimum time for delivery definitely increases the mortality in eclampsia. In the fatal cases in this series treatment was instituted on an average of 10 hours after the onset of convulsions, as compared with three hours in the non-fatal cases.

Three patients died in coma, undelivered, a few hours after admisison to the hospital. Six patients died within the first 24 hours after their admission, five between 24 and 48 hours, five between 48 and 72 hours, and the other three between 72 and 120 hours. These figures make it clear that a certain group of patients were moribund when they were first seen and could not have been saved by any method of treatment.

The majority of writers attribute the generally reported reduction in the mortality of eclampsia during the last few years to better methods of treatment. Peckham[2] introduces the speculation that eclampsia may actually be decreasing in severity, and cites the reduction in mortality at Johns Hopkins in recent years to prove this point, since the method of treatment has been the same there for the last 13 years. In our opinion, the explanation of the improvement at the New Orleans Charity Hospital is twofold: (1) With the reduction in the incidence of eclampsia due to better prenatal care, the potential mortality is reduced, that is, when fewer cases occur, the number of possible deaths is correspondingly reduced; (2) the reduction in the actual mortality is due to improvements in methods of delivery, and particularly in the number of traumatic deliveries, associated with increasing attention to the status of the patient herself.

CAUSES OF DEATH

In 12 of the 19 fatal cases the cause of death was eclampsia *per se*. Four other patients died of pneumonia and the remaining three died of septicemia. The convulsions in the fatal cases ranged from one to 16, as compared with one to seven in the non-fatal cases, but it is questionable whether there was any relationship between the number of fits and the mortality. Seven patients went into fatal coma after only one convulsion. There was no apparent relationship between the albumin content of the urine and the mortality.

Coma was present in 12 of the fatal cases, but in only one of the non-fatal cases. All the patients who died exhibited pulmonary edema, as did 42 of the patients who lived. There is no doubt that both of these complications increase the mortality rate, particularly when they appear in the same patient, as happened in 13 instances in this series. Teel and Reid[3] observed pulmonary edema in 56 per cent (26 of 46) of their fatal cases, and suggested that a frequent immediate cause of death in eclampsia is left ventricular failure.

TABLE 3

MORTALITY IN 220 CASES OF ECLAMPSIA IN RELATION TO METHODS OF DELIVERY

		1936 - 1940	
Methods of delivery	Cases	Deaths	Per cent
Spontaneous	157	3	1.8
*Forceps	19	3	15.8
**Section	16	1	6.3
Metreurysis	12	4	32.5
Version and extraction	10	5	50.0
Craniotomy	3	0	0.0
Undelivered	3	3	100.0
Totals	220	19	8.6

*18 low, 6 mid
**16 low, 4 classical

In this connection, it is well to emphasize again the mortality which occurred in the puerperium in this small series, and to point out that the toxemic patient needs as intensive and as adequate care after delivery as before and during labor.

FETAL MORTALITY

Two hundred twenty-four infants were born of the 220 mothers in this series, there being four sets of twins. Twin birth is not unusual in eclampsia and seems to play some part, as yet entirely obscure, in its incidence. The gross fetal mortality was 92, 41 per cent; 48 children were stillborn and the remainder died soon after birth. The high fetal mortality is paralleled by the fetal mortality in other reported series and is evidence of the serious effect of the maternal toxemia upon the child *in utero*.

A recent improvement in the fetal mortality has been observed, in line with the improvement in the care of toxemic patients and the reduction in traumatic methods of delivery, and also in line with better methods of care of the premature infant. It should be emphasized, however, that the fetal mortality in eclampsia will always, of necessity be high, and that the mother's safety should never be jeopardized for the sake of an infant whose existence, because of the maternal disease, is always precarious.

SUMMARY AND CONCLUSIONS

1. An analysis of 220 cases of eclampsia from the New Orleans Charity Hospital showed a maternal mortality of 8.6 per cent and a fetal mortality of 41 per cent.

2. The incidence of eclampsia decreased and the mortality improved in the later years of the study, the improvement being due, respectively, to better prenatal care and better methods of delivery, associated with more attention to the status of the patient herself.

3. Both the negro incidence and the negro mortality were disproportionately high, which is to be attributed to the general disregard of prenatal care in this race.

4. The management of eclampsia involves three considerations: Prevention of the disease by adequate prenatal care; termination of the pregnancy, without regard to the stage of gestation, if pre-eclampsia cannot be controlled; delivery with as little trauma as possible in frank eclampsia, after convulsions have been controlled and the patient has been brought to the best possible state.

5. The improvement in the mortality of eclampsia at Charity Hospital is associated with an increase in the number of spontaneous and a decrease in the number of traumatic deliveries.

6. Because of the effect of the maternal toxemia, the child's existence is always precarious, and the mother's safety should never be jeopardized for its sake.

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3. Teel, H. M., and Reid, D. E.: Eclampsia and its sequelae. A clinical and follow-up study of all cases at the Boston Lying-In Hospital over a twenty-year period, Am. J. Obstet. & Gynec., 34:12, 1937.

DISCUSSION

Dr. William F. Guerriero (New Orleans): I would like to clarify the statement concerning the number of cesarean sections performed. In no instance was cesarean section performed with eclampsia as an indication. Primarily, these sections were performed because of some associated pathology such as cephalopelvic disproportion. In all cases eclampsia was controlled and the patient placed in excellent condition before the undertaking of such a procedure. All sections in the last two years have been performed under local analgesia. We have attempted to stress the increase in mortality in cases of eclampsia terminated by traumatic means as against the lowered mortality in those which were terminated by some non-traumatic means. In most cases delivery can be accomplished from below spontaneously after some simple method of induction has been used, such as rupture of the membranes.

Nature is most kind in that in a large percentage of patients at term with eclampsia, labor begins in a few hours after the initial convulsions have occurred. In the early years of obstetrics, there occurred a surgical treatment of eclampsia in which the mortality was disturbing. In later years there was a swing to the ultra-conservative management of eclampsia in which the mortality improved somewhat, but not to the extent that one would be satisfied with it. At the present time there is the obstetrical management which includes, as has been mentioned, the adequate control of

convulsion, the placing of the patient in the best possible condition and then the terminating of the pregnancy in the least traumatic manner. It is by following the last manner of handling these cases that the mortality of eclampsia has been reduced to such an extent at Charity Hospital. The mortality will be further reduced, however, only when adequate prenatal care is afforded all patients to prevent eclampsia from occurring.

Dr. C. R. Mays (Shreveport): It is indeed gratifying to see the results that have been accomplished in the Charity Hospital in New Orleans; results which I was afraid would never be accomplished in that institution; results admittedly better than in our local Charity Hospital, and within the last year, results that I have never seen or hoped to see.

We think that the only safe uterus in the face of hypertension is an empty uterus. Our problem is not always to carry the patient with hypertension to term or viability but to prevent the development of eclampsia and permanent vascular damage. Though we cannot prove it, we feel that the latter sequel is quite likely to ensue if pregnancy is allowed to continue over a period of weeks or months in spite of persistent hypertension. We feel that this is particularly true if the individual case gives a family history of hypertension.

In reporting mortality statistics on eclamptic patients, I think they should be divided into two types, the mild and the severe. Mild eclampsia carries a very low mortality with any good judicious form of treatment. If, however, the eclamptic patient has a blood pressure over 200, a urine that boils solid, a pulse over 110, pyrexia, persistent coma and more than eight fits, the mortality is very high in spite of all that is or is not done.

I think it is quite interesting to note that in the series here reported, the death rate is higher in the multiparous group. I suppose the reason for this is that the multipara more often has pre-existing vascular or renal disease.

The decreasing death rate shown in this report is perhaps due to a number of things. The first, and certainly highly important, is improved care because of improved supervision and training of personnel and a general agreement by members of the staff to adhere to certain well founded procedures. Other factors contributing to the decrease in mortality in this report are, I believe, an increase in number of encountered eclamptics who developed the disease even after prenatal care, an increasing number of cases without the above criteria of severity and, last but not least, uniformly good medical and nursing care. Probably the judicious election of the most opportune time to induce labor after the patient begins to respond to sedation and hypertonic glucose is one of the very important factors in the succes of this group.

In Shreveport Charity Hospital we regard bagging as a very hazardous and undesirable method of inducing labor in eclamptics or any other patient. We feel certain that it has many disadvantages and no advantages whatever over simple rupture of the membranes. The infrequency of its use in New Orleans Charity Hospital and the results obtained therefrom indicate that the group there is at least in the process of adopting a similar attitude toward this method of induction of labor.

Dr. E. L. Zander (In closing): In regard to severe eclampsia, our point was to prevent patients from developing severe eclampsia. We believe it is wiser to interfere before, rather than later, when severe eclampsia has developed. The explanation for eclampsia in multiparae is the fact, as stated by Dr. Mays, that most cases are associated with hypertensive disease.

The eclampsias we have had were not patients who were referred to us through the clinic; none came in through the clinic. These patients were either admitted or patients who did not follow the clinic routine; they came in at the last minute and most were severe cases.

NURSERY DIARRHEA*

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NEW ORLEANS

For the past twelve years there have been reports from all over the United States, as well as occasional reports from abroad, of a sudden, devastating, newborn toxicopathy occurring in the nurseries of modern, well-equipped, widely separated hospitals. Many pediatricians are agreed that this is a newly recognized disease entity. Although the symptomatology is rapidly becoming broadcast, little is known of its etiology. These characteristics, as well as its lack of seasonal variation, are emphasized in table 1.

In a round table discussion of diarrhea and dysentery in the November, 1940, issue of the Journal of Pediatrics[14] the diarrheal disorders of infants and children are classified as follows:

1. Infections of the gastrointestinal tract (*B. dysenteriae, B. typhosus, B. paratyphosus, Salmonella suipestifer,* amebae, and *Vibrio cholerae*).

2. Diarrheal disorders possibly due to

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TABLE 1.
SUMMARY OF REPORTED CASES (13)

Hospital	Locality	Season	Diarrhea	Mortality Deaths	Mortality Pct.	Organisms Recovered
The Cradle (1)	Chicago	1928	81	27	33	S. morgani
Michael Reese (2)	Chicago	Winter-Spring '30	34	14	41	B. mucosa, Str. haemolyticus
Sick Children (3)	Toronto, Ont.	Spring '33	15	9	60	B. dispar
Memphis General (4)	Memphis	Winter '33-'34			47	B. coli mutabile
(5)	Teaneck, N. J.	Winter '34	20	11	55	
Providence (6)	Seattle	Winter-Spring '35	23	14	61	Monilia
Lariboisiere (10)	Guiches, France	1935	5			Intermediary B. dysenteriae (Shiga-Flexner)
Royal Maternity (10)	Edinburgh, Scotland	'32-'35	41	11	27	B. coli, B. pyocyaneus, Str. viridans
(10)	Buffalo	1935	18	9	50	
N. Y. C. Hospitals (5, 11)	New York	July '34 to July '37	711	335	47	
Worcester Memorial (7)	Worcester, Mass.	Nov. '37	6	5	83	
Children's (8)	Denver	Aug.-Jan. '37	11	5	46	
Milwaukee (9)	Milwaukee	Sept. '38	39	18	44	Str. haemolyticus
St. Louis Co. (10)	Clayton, Mo.	Winter-Spring '38	26	11	42	P. vulgaris
U. of Pa. (11)	Philadelphia	1939	14	0	0	
(12)	Los Angeles	1940	11	4	36	
Touro Infirmary	New Orleans	Oct.-Nov. '40	12	9	75	B. coli, B. aerogenes, and Str. fecalis
	Total number of cases reported		1067	474	44	

virus infections of the gastrointestinal tract or secondary to a general systemic virus infection.

3. Diarrheal disorders from ingestion of food contaminated with bacteria, or molds, in which, as a direct result of their growth in foods, true toxins are formed.

4. Diarrheas resulting from reduced digestive functions whether from parenteral infections, chilling of body, over-heating, or humidity.

5. Diarrheas from the ingestion of intestinal irritants.

6. Diarrheas from over-feeding.

7. Allergic diarrheas.

8. Nervous diarrheas.

9. Eliminative diarrheas seen in uremia and acidosis from the excretion of endogenous toxins in the intestines.

10. Starvation diarrheas.

11. Diarrhea from gastrointestinal bleeding.

It becomes increasingly apparent that the recent epidemic diarrheas are probably of the nature of classification 2. This belief is supported by both the inconclusive bacteriologic studies and the autopsy findings. The reported high incidence of "flu" in a community preceding an epidemic of infantile diarrhea has been noted. The suggestion has been made that the infection occurs at the first stage of an epidemic of "flu". In the present report that was at least an incidental finding as there has been a considerable "flu" epidemic in Louisiana from November to the present time. Pathologically the findings are similar to those of fatal influenza or measles. Generally speaking, in diarrheal disorders, it may be difficult to determine whether the offending organism is enteric or extra-enteric. Felsen[15] explains diarrheal manifestation by two different mechanisms, as follows: As the gastrointestinal tract of the newborn is sterile, the flora within the first few days is determined by food and ingested substances. Normally the intestinal tract adjusts to a varied bacterial flora without any noteworthy disturbances "unless some unusual toxin-producing organism succeeds in gaining a foothold. Bacteria do not pass through a healthy intestinal wall but toxins do." The absorbed toxins produce systemic effects. However, the focus of absorption may be entirely extra-enteric, and particularly in the respiratory tract. Regardless of the initial site of infection the toxins are carried in the blood stream to the intestinal

mucosa. Therefore, culture of the stools for a specific agent may be futile.

Frant and Abramson[5] define the epidemiologic features of this syndrome in their New York studies. The disease is limited to infants of the neonatal period, that is, the first month of life. It does not spread to the older children or adults. Feeding is not important. It occurs in all seasons.

Rice, Best, and Frant[16] have given a very good typical case history. One of the newborns, either breast or bottle fed, ceases to gain, vomits feeding, refuses feeding, or passes several loose yellow stools without blood. In several days, in spite of fluids, the patient becomes profoundly toxic and dehydrated. In spite of protein milk, breast milk, blood transfusion, and phleboclysis, the patient has only a 50 per cent chance of recovery. Otitis or bronchopneumonia may be a terminal complication.

In the epidemic of 12 cases of newborn toxicopathy which occurred at the Touro Infirmary in October, 1940, respiratory and other infections were prominent in the attendants and maternity cases on the wards at that time. Nose and throat cultures done on 28 doctors, nurses, and attendants for the obstetric floor proved nine positive cases of *Strep. hemolyticus*. One of these subjects had a bad cold, and two additional cases of head cold showed *Strep. non-hemolyticus*. All cultures were positive for staphylococci. Of 65 maternity admissions between October 15 and November 1, 22 had upper respiratory infection and 12 had pyelitis on admission. In our cases, all but two of the mothers had some kind of infection, the average baby was borderline in weight, that is, 5½ pounds, and had some abnormal type of delivery, as is shown in table 2.

All but one baby had either skin or mouth lesions, that is, blebs, rash, thrush or nasal pharyngitis before diarrhea started. The onset of diarrhea was in the average case eight days postnatal, with an average of 5-16 watery greenish-yellow stools per day. One stool showed bloody mucus. Later the stools became putty-like in consistency. The course during this phase was not alarming as a rule. Vomiting and regurgitation of formula started soon after diarrhea, and grew more severe as the respiratory symptoms appeared. The vomitus was green to yellow, and in one case it was bloody and possibly arose from the lungs. Upper respiratory symptoms began on an average of six days after the onset of diarrhea, the infant's condition becoming rapidly worse thereafter. The symptoms are summarized in table 3.

The laboratory findings were not enlightening. No specific dysentery organisms were present in the stools, but *B. coli*, *B. aerogenes* and *Strep. fecalis* were the most frequently isolated. Th blood counts were not particularly elevated during the first week of diarrhea but rose later in those cases noted. At the end of the series of cases x-ray findings indicated possible lung pathology. The gastrointestinal series in one case was non-contributory.

TABLE 2.

Case	Admission Maternal Infections	Birth Weight	Type of Delivery and Indication
1	Erysipelas	5 lb. 2½ oz.	Oct. 4, spontaneous premature
2*	Pharyngitis	5 lb. 4¼ oz.	Oct. 18, precipitate, twin
3*	Pharyngitis	5 lb. 13 oz.	Oct. 18, spontaneous, twin
4	Coryza	3 lb. 12 oz.	Oct. 20, laparotrachelotomy, toxemia of pregnancy
5†	Pyelitis and mod. diarr.	5 lb. 7 oz.	Oct. 20, laparotrachelotomy, dwarfism, twin
6†	Pyelitis and mod. diarr.	5 lb. 8½ oz.	Oct. 20, laparotrachelotomy, dwarfism, twin
7	Cold in hospital	6 lb. 13¼ oz.	Oct. 20, laparotrachelotomy, contracted pelvis
8	Cough and nasal disc.	7 lb. 2½ oz.	Oct. 20, low forceps and episiotomy
9	Pharyngitis and pyelitis	6 lb. 4 oz.	Oct. 22, laparotrachelotomy, previous section
10	None	6 lb. 5½ oz.	Oct. 24, laparotrachelotomy, funnel pelvis
11	Pharyngitis and sinusitis	5 lb. 14 oz.	Oct. 27, laparotrachelotomy, placenta praevis
12	None	6 lb. 9 oz.	Nov. 2, low forceps and episiotomy

*Cases 2 and 3 are twins.

†Cases 5 and 6 are twins.

TABLE 3.

Case	Date of First Symptom	Stool	Vomitus	Respiration
1	Oct. 8: blebs; Oct. 14: green, watery stool	Oct. 12-21: watery green to yellow pasty	Oct. 14: formula; Oct. 16: green; Oct. 21: distention	Oct. 20: coryza; Oct. 21: labored
2*	Oct. 27 or 28: green, watery stool and vomiting of formula	9 watery green to pasty yellow per day	Occasional; Nov. 3: continuous with distention	After Oct. 31: rate 32-40; Nov. 3: dyspnea and bloody fluid in trachea
3*	Same as case 2	About 5 per day of similar character as case 2	Practically none; tan fluid on lavage for distention	After Oct. 31: rate 32-40; Nov. 2: cyanotic
4	Oct. 27: green-brown stool, diarrhea	5-9 greenish watery stools per day	Oct. 31: green fluid p. c.; Nov. 7: bright red	Nov. 7: cyanosed
5†	Oct. 27: thrush (?); Oct. 29: green, watery stool	Oct. 29: green, watery, liquid yellow and foul, almost continuous	Nov. 4: 6 times; Nov. 8: thick yellow fluid in mouth	Nov. 9: mucus, cyanosis, dyspnea
6†	Same as case 5	Same as case 5	Nov. 3: occasional p. c. regurgitation; Nov. 7: thick yellow fluid in stomach	Same as case 5
7	Oct. 21: blebs; Nov. 4: diarrhea & p. c. vomiting	Nov. 4-9: 6-10 loose yellow-green per day	Nov. 4: p. c.; Nov. 9-10: green fluid	Nov. 9: mucus, cyanosed
8	Oct. 24: blebs; Oct. 25: 5 green stools, 6 vomitings	Oct. 25-26: 6 green stools per day	Nov. 25, 26: 6 times p. c.	
9	Oct. 24: blebs; Oct. 29: watery green stools	After Oct. 29: 5-9 loose yellow-green	Oct. 29: green fluid, distention	Nov. 4: cyanotic
10	Oct. 29: liquid green stool, also on Nov. 9	Nov. 9-12: 5 loose yellow-green; Nov. 10: mucus	Nov. 9: formula; Nov. 13: distention	Nov. 11-13: rate 52-60
11	Nov. 4: watery green diarrhea	Nov. 4-7: 12-16 watery green to foul soft yellow	Nov. 6: distension; Nov. 8-12: green fluid	Nov. 9-15: mouth and pharynx scarlet, gagging
12	Nov. 6: thick green fluid with blood and mucus	Nov. 6-12: 9 dark green bloody mucus to creamy yellow foul per day	Nov. 7: green fluid; Nov. 11-12: yellow fluid	Nov. 6-7: cyanotic; Nov. 14-15: rate 30-32

*Cases 2 and 3 are twins.
†Cases 5 and 6 are twins.

TABLE 4.

Case	Laboratory Reports
1	None.
2	Oct. 30: R. B. C. 5.0; W. B. C. 7,500; hb. 100%; polys 50%; Wass. neg.
3	Oct. 30: R. B. C. 5.0; W. B. C. 11,000; hb. 100%; polys 60%.
4	Nov. 5: stool culture neg. for pathogens.
5	Nov. 6: stool culture neg. for pathogens.
6	Nov. 5: stool culture neg. for pathogens.
7	Nov. Oct.: bleeding time 1 min., coag. time 2 min.; stool culture neg. for pathogens.
8	None:
9	None.
10	Oct. 19: Wass. neg.; Nov. 11: R. B. C. 5.0; W. B. C. 9,100; hb. 100%; polys 72%; Nov. 13: R. B. C. 5.03; W. B. C. 15,500; hb. 110%; stool culture neg. for pathogens; Oct. 24: x-ray shows atelectasis; Nov. 9: x-ray suggestive pneumonic consolidation.
11	Nov. 5: Wass. neg.; Nov. 7: stool culture neg. for pathogens; Nov. 9: x-ray showed increased lung markings; Nov. 12: G-I series and chest neg.
12	Nov. 9: stool culture neg. for pathogens; Nov. 12: x-ray showed increased right lung markings; Nov. 13: R. B. C. 4.0; W. B. C. 22,000; hb. 110%.

Treatment throughout was varied and more or less symptomatic. Only cases 10, 11 and 12 survived. These three cases were the last affected. Two of these cases, 10 and 12, were treated with sulfapyridine but we do not believe that the use of this drug contributed much to the recovery of the patient. One of these patients had a rectal temperature of less than 101° which showed no appreciable change for several days after the administration of the drug and the other patient had no fever and gradually got well. The diet before illness and the subsequent treatment is outlined for each case in table 5.

CONTROL

1. As soon as the outbreak became recognized as of epidemic nature the nursery was immediately ordered closed to all new admissions.

2. It became the policy of the hospital to send home at the earliest practical date all uninvolved infants and their mothers.

3. Visitors were prohibited.

4. Thorough cleaning and disinfecting of the entire floor was instituted.

5. Emergency units were established in the hospital with strict isolation for the babies involved.

6. Water and food supplies were checked. Distilled water was substituted for tap water in the formula room.

7. Nose and throat cultures were secured on all attendants including doctors, nurses,

TABLE 5.

	Before Onset	After Onset
1	Vitamin K, lactose, olac, drisdol, yeast, dextrimaltose	Nestles food, protein milk, saccharine, clysis, kaopectate, coramine
2	Routine formula, breast	Clysis, kaopectate, casec, dryco, whole blood, coramine
3	Routine formula, breast	As in case 2*
4	Olac, drisdol, breast	Casec, clysis, paregoric, Nestles food, coramine
5	Pet milk, dextrimaltose, breast	Casec, clysis, kaopectate, dryco, paregoric, coramine
6	Pet milk, dextrimaltose, breast	As in case 5†
7	Dextrimaltose, evaporated milk, karo, breast	Clysis, whole blood, casec, coramine
8	Cow's milk, betalactose, breast	
9	Routine formula	Milk, lactose, lime water, clysis
10	Thyloquinone, similac, clysis, breast	Clysis, similac, whole blood, sulfapyridine (intravenously and orally), casec
11	Dextrimaltose, pet milk, dryco, betalactose, breast	Clysis, paregoric, barley water, sodium citrate, lac-bismo, protein milk, castor oil, vitamin K, calcium gluconate whole blood, oleum percomorphum
12	Breast, lactose	Protein milk, thyloquinone, saccharine, paregoric, dextrimaltose, belladonna, clysis, sulfapyridine, caffeine, prostigmine, dryco

*Cases 2 and 3 are twins.
†Cases 5 and 6 are twins.

cleaning maids, and anyone who had contact with the nursery. Those harboring *Strep. hemolyticus* were immediately removed from the vicinity.

8. Autopsies were obtained on all patients who died in the hospital.

9. Before reopening the nursery the entire technic was checked in regard to possible errors and inadequacies.

AUTOPSY FINDINGS

In all seven cases examined at autopsy a rather widespread patchy pneumonia was found. This pneumonia was characterized by an extremely hemorrhagic appearance grossly and microscopically. Several of the lungs showed very little leukocytic response, being entirely hemorrhagic, while the remainder showed varying degrees of polymorphonuclear reaction and two were associated with miliary abscess formation. Cultures taken from the lungs revealed the presence of mixed organisms among which were both non-hemolytic and hemolytic streptococci, *Staphylococcus aureus,* and *Esch. coli.*

All cases presented ileus with dilation of the intestinal tract with varying degrees of congestive changes in the upper small intestine. These congestive changes in some cases extended to the colon. Five showed some degree of superficial necrosis of the intestinal mucosa, exhibiting very little or no inflammatory cellular reaction. One case presented a definite inflammatory gastroenteritis.

A terminal septicemia was confirmed by culture of the heart blood in two cases only, the organism being in one instance a non-hemolytic streptococci and in the other a *Staph. aureus* and *Esch. coli.*

All cases presented acute hemorrhagic splenitis and one case an acute interstitial pancreatitis.

Whether death in this disorder is due to toxicosis, changes secondary to diarrhea, primary virus infection or secondary infections is problematical.

SUMMARY AND CONCLUSIONS

A brief review of the literature regarding nursery diarrhea has been presented, together with an abstract of the recent outbreak in the nursery of Touro Infirmary in New Orleans.

It was not possible to establish any definite etiologic agent or agents from the data gathered in these cases. In this respect and in others this outbreak was similar to many which have occurred in other parts of the country.

Of the twelve cases involved, nine died. Seven of these came to autopsy. Universal findings at autopsy were a hemorrhagic type of pneumonia, together with ileus and congestive changes in the intestinal tract, many of which showed superficial necrosis

of the mucosa. A variety of organisms was isolated from the lungs.

It might be considered possible in view of the general picture presented at autopsy to theorize along the lines of a virus infection, creating a condition of debility, thus enabling various secondary invaders discovered in the course of the culture work to assume pathogenic roles. In support of this theory it may be pointed out that this outbreak occurred shortly before the crest of the recent epidemic of influenza that swept over this part of the country.

Lastly it may be pointed out that in this particular group of infants the disease apparently sought out those who were in some way under par at birth.

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A RECONSIDERATION OF THE VALUE OF NEPHROPEXY*

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AND
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This paper has for its purpose a consideration of the results in a series of ten cases in which nephropexy was performed. They present a small group among the many patients seen during a fourteen month period who presented roentgenologic evidence of abnormality of the upper urinary tract. The majority of patients experienced relief of symptoms after a gain in weight and the support of a surgical belt, without active surgical intervention. No thoughts of surgical intervention were entertained in any case unless there was definite roentgenologic and cystoscopic evidence of progressive renal damage as a result of obstruction, or a continuance of pain with definite abnormalities of the upper urinary tract.

We are well aware that the operation is neither new nor unusual. Since introduction of nephropexy by Hahn in 1881, the procedure has been subjected to an almost unending number of modifications; furthermore, its justifiable position among the accredited surgical procedures in the field of urology has varied between wide limits. We hope to be able to emphasize that, in properly selected cases, the procedure is indicated, justified, and effective.

The patients, ten in number, were all white females and were operated upon during 1940. The youngest in the group was 27 years, the oldest 56, the average age being 41.3 years. Eight were married and two unmarried. The presenting complaints were sometimes multiple but all of the patients had in common the complaint of pain referred either to the lumbar area or to the loin. Pain had been present in one

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patient for 25 years. The average duration of pain before consultation was one and one-half years. The pain was variously described either as lancinating or dull in character, with the latter type predominating. Unless carefully questioned, few patients described extension of the pain from the lumbar region to the anterior aspect of the abdomen. In every case the recurrent or persistent character of the pain was emphasized by the patient. In questioning the patients in regard to the duration of the pain, numerous instances were found in which the onset was stated as being only a few days or weeks previously. However, when detailed and searching questions were put, we were able to place the time of onset many years before the time of admission. We believe this to be a significant factor in deciding the propriety of surgical operation.

ADMISSION DIAGNOSES

The admission diagnoses (resident staff) were found to include nephroptosis in only three cases. Of the remainder, the diagnoses included recurrent appendicitis, cystitis, chronic pyelonephritis, ureteral calculus, renal calculus, and ureteral obstruction of unknown type. Three of the patients were seen in consultation at the request of the gynecologic staff. None had diagnoses of gynecologic pathology, but had been assigned to a gynecologic ward by the admitting physician.

Three of the patients had had a previous operation. These were cases numbers five, nine and ten. In case number five an hysterectomy and appendectomy had been performed in 1935. The patient stated that she had had backache since that time but could not state positively as to whether or not such had been present before. In case number nine, a nephropexy and appendectomy had been performed, the former on the opposite side 13 years ago with good result. In case number ten, an appendectomy had been performed in 1936, without subsequent relief of pain.

PHYSICAL FINDINGS

The pertinent physical findings included principally tenderness upon palpation, referred either to the lumbar region or to the upper or lower abdominal quadrants, or any combination thereof. In only one case could a mass be palpated either in the lumbar area or in the abdomen. Laboratory studies were for the most part within normal limits with the exception of the microscopic and cultural examination of the urine. Every patient was found to have evidence of urinary infection, either by direct smear, or culture, or both. In two patients the renal function, as estimated from the urea nitrogen of the blood and the phenolsulphonephthalein test of the urine, was found to be depressed below a desirable level. Preoperative cystoscopy and roentgenography revealed the presence of hydro-

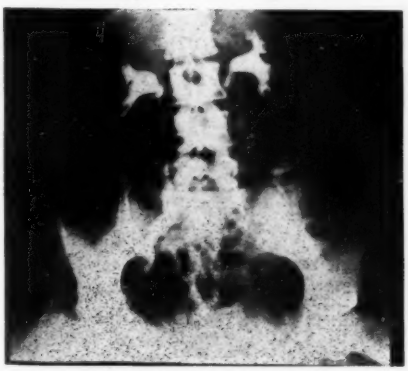

Fig. 1—A. Retrograde pyelogram showing ptosis of right kidney and kinking of ureter at uretero pelvic junction.

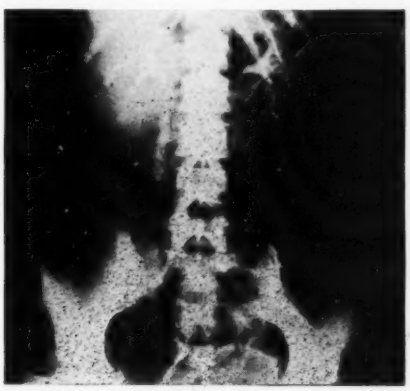

Fig. 1—B. Intravenous pyelogram showing correction of deformity.

Fig. 2—A. Preoperative pyelogram showing ptosis of right kidney, hydronephrosis and kinking ureter.

Fig. 2—B. Postoperative pyelogram showing correction of ptosis, hydronephrosis and ureteral kink.

nephrosis in five of the patients, although in only one did it approach a pelvic retention of moderate degree. At cystoscopy, evidence of urinary infection was confirmed in those patients in whom preliminary examination had shown it to be present.

Roentgenography formed the principal point of departure from which decision to operate was either made or rejected. However, in every case it served only as the point of departure, and not as the absolute criterion. Review of the films disclosed either abnormal mobility of one or both kidneys, deformity at the ureteropelvic juncture, kinking or angulation of the ureter, dilation of the calyces, hydronephrosis, or any of these in combination.

TYPE OF OPERATION

Operation was performed in all patients under general anesthesia. The lateral position and Mayo type incision were employed. After mobilization of the kidney, either a modification of the Edebohl's nephropexy, or of the technic recently described by Young, was used.

Regardless of the "type" of operation used, particular care was given to denuding the kidney of its capsule. Since nephropexy implies fixation of the kidney, we attempted to immobilize it by enabling firm adhesions to form, in contrast to its normal condition. Five of the cases were placed

Fig. 3—A. Preoperative pyelogram showing ptosis of right kidney.

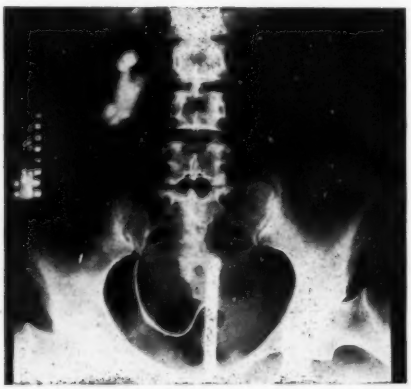

Fig. 3—B. Postoperative pyelogram showing correction of deformity.

in one group and five in the other. While we have divided these cases into two classes according to the type of operation, we wish to have it understood that nephropexy alone did not comprise the whole procedure, just as nephroptosis alone was not the sole indication; in all cases great care was taken to correct any abnormality, such as ureteral kinks due to aberrant vessels, or fibrous bands, where such existed.

POSTOPERATIVE CARE

The postoperative care in the uncomplicated cases included a period of bed-rest for three weeks, followed by the wearing of a supporting belt for an indefinite period, not less than one year. All patients had belts fitted before becoming ambulatory. The postoperative course was uncomplicated in seven of the cases. Of the remaining three, one developed a low-grade fever which persisted a few days, the cause of which we were unable to determine. Case number one developed an exacerbation of the previously present urinary infection on the sixteenth postoperative day. This was readily controlled after cystoscopy and administration of urinary antiseptics. Case number nine enjoyed an uneventful postoperative course for nineteen days, following which she developed high fever, abdominal distention, leukocystosis, and severe toxemia. Consultation with both the medical and surgical staffs failed to assist us in establishing the cause of this episode. A presumptive diagnosis of subdiaphragmatic abscess was made but never proved. Under symptomatic treatment, which included multiple blood transfusions, adequate hydration, and continuous abdominal suction, the patient recovered. At no time during her stormy course or afterward were we able to find a basis for interpreting the symptoms in relation to the operation.

Cystoscopy after convalesence was negative in all cases except case number eight in which the original retention of 25 c.c. was found to have been reduced to only 10 c. c. We were most fortunate in being able to demonstrate by means of x-ray, after convalescence, the correction of the anatomic deformities which had been present in the preoperative roentgen studies. The subjective result was relief of pain in every case.

CONCLUSIONS

1. A series of ten cases of nephropexy is presented.

2. The common symptom was dull pain in the lumbar region.

3. In five cases the roentgenologic examination revealed hydronephrosis.

4. In all cases, the roentgenologic examination revealed anatomic deformity at the ureteropelvic juncture or in the course of the upper ureter.

5. All patients presented evidence of urinary infection of varying degree.

Fig. 4—A. Preoperative pyelogram showing kink at right ureteral pelvic junction.

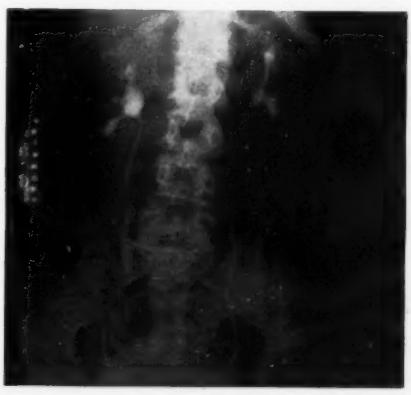

Fig. 4—B. Postoperative pyelogram showing correction of deformity.

6. Two types of technical procedure were employed for surgical correction.

7. Only those patients who presented evidence of obstruction or who returned to the hospital for recurrent pain, were seriously considered for operation.

8. Emphasis is placed on extensive denudation of the kidney.

9. Postoperative objective and subjective results were satisfactory in all cases.

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DISCUSSION

Dr. J. R. Stamper (Shreveport): I feel very grateful to the essayist for coming to Shreveport to consider a subject as old as nephropexy. I probably appreciate it more than most of you due to my past experience with the subject. As he has outlined, nephropexy simply means fixation of the kidney. Nephropexy has swung in and out of our medical armamentarium for the last couple of decades. It has enjoyed popularity and suffered disrepute, perhaps due to the fact that nephropexy in the beginning was usually performed by the general surgeons without the aid and assistance of trained urologists and modern urologic equipment. It cannot be successful without the knowledge of scientific urologic investigation.

I would like to enlarge the scope of the essayist's application of nephropexy and probably widen the scope as to symptomatology. The fixation of the kidney is performed in every case of kidney operation where the kidney is delivered and freed of its surrounding tissues, and particularly where the kidney is opened for the purpose of nephrotomy, or pyelotomy. This to my mind means nephropexy and is a very important point in kidney surgery, for if this is overlooked the kidney will be replaced in its bed and anchored, maybe in the proper position, but frequently in an improper position which allows some rotation or angulation of the pelvis or ureter which might bring about some degree of stasis in the future.

I want to present a slide here to demonstrate one case where hemi-nephrectomy was performed and the upper pole simply put back in the kidney bed without any attempt at fixation. As you see the kidney is completely rotated and the ureter goes in a loop above the level of the upper portion of the kidney. Strange to say, this individual had no symptoms from such a malposition of the kidney, where in the next five cases most likely would have symptoms from such a position. I will not have anything to say about the technic of the standard nephropexy, they are all satisfactory if properly applied.

As to symptomatology, I would like to classify that into three groups. First, the mechanical, as that of a movable mass in the abdomen. Second, all of the symptoms that go with urologic symptoms. Third, all of the symptoms that are manifested reflexly through the sympathetic nervous system. I show this slide to detail further the three groups of symptoms from ptosed kidney and the indication of nephropexy. I would like to show just a few slides to illustrate further the end results of nephropexy.

Dr. M. H. Foster (Alexandria): There are some determinations to be made in considering the performance of nephropexy:

First, that the cause for the pain in the lumbar back is not something extra-renal. Some years ago, a patient of mine was relieved of exceedingly severe lumbar backache by the extraction of two abscessed teeth. My gratification was increased when later I had to do a nephropexy for the husband because of pyelonephrosis.

Second, whether the ureter is adequate for drainage. No one can tell beforehand whether the results will be failures. Success or failure of nephropexy can only come after one or two years' time. Still we can tell whether the physiologic results will be satisfactory.

FINGER PRINTS AND ATTEMPTED FRAUD*

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The present critical period emphasizes the usefulness of finger prints in personal identification. In a brief span of time several millions of aliens have been fingerprinted, and with the making of records for army and navy forces the current rate of finger printing in the United States is far above that of normal times. Finger prints provide for positive identification of every individual so registered, whether they be recorded to meet special needs of a national emergency, or for their more familiar application by agencies of law enforcement, or for various uses in civil life. It is the purpose of these brief remarks to bring to your attention some of the principles and advantages of finger print identification.

*Read at the Scientific Meeting of the Orleans Parish Medical Society, May 12, 1941.

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PRINCIPLES OF PERSONAL IDENTIFICATION

In every-day contacts we practice sight recognition of individuals. Adequately enough under usual circumstances, a person is recognized, or distinguished from others by his rounded, ruddy face, stubby nose, blue eyes, light hair, short stature, stocky build—and so on through a long list of natural or acquired bodily characteristics, mannerisms, habits of dress and other qualities—which with familiarity are assessed without conscious effort. The basis of sight recognition is the obvious fact that two individuals are unlikely to present the same combinations of characteristics; notwithstanding that they may have some in common, it is the totality of the combination which gives distinctiveness to each. Sight recognition is by no means infallible. Changes brought about by aging, disease, and sometimes intentional alteration of natural traits often lead to lack of recognition, and in the occasional instances of close resemblance there may be confusion of identities. Such lapses in identification usually are of little consequence in the daily affairs of most of us, but there are situations in which no mistake can be tolerated.

Precise methods of personal identification, at least as known in modern times, originated no earlier than six decades ago, when Bertillon announced the system which bears his name. To the less exact descriptive data previously employed in systematic police identification he added a series of eleven body measurements. The principle of their use is exactly that of ordinary sight recognition, that is to say, there is small chance of duplicating in two individuals the combination of the numerous described traits and measurements. The method is naturally more reliable than sight recognition, and it has the further advantage of being adapted to a classification of records which provides for ready search of the files, a necessity in uses such as identification of criminals. The Bertillon system was soon almost completely superseded by finger print identification, the method which is now universally employed for the registration of criminals, and which is finding increasing favor in various civil applications.

There is nothing very complicated in the system of finger-print identification,[1, 2, 3] and such complications as there are need not be introduced in this discussion of principles. It is only necessary to point out that the finger prints (and corresponding patterns of the palms and soles) are ideally adapted to the needs of an identification system. They have the further advantage, in criminal investigation, of being impressed in the touching and handling of objects, so that the person unwittingly may make an identifiable record of himself. The delicate skin ridges of the finger tips are arranged in patterns, which are classifiable for filing under headings which may be subdivided without limit. Hence it is possible, having made the finger prints of an individual, to determine quickly if he has been previously printed and placed in the file. If found there, the record will not only establish his identity but also it will disclose the items of his prior history which have been entered. So full of detail is a single finger print, or even a portion of one, that an identification may be absolutely determined by its comparison with another print of the digit. With finger prints there is assurance of correct identification. Their characteristics, unlike those upon which we depend for sight recognition, do not change with the passing of time, and individual distinctiveness is so dependable that two persons never are confused.

Coincidences in names are notoriously common, and sometimes there is remarkable physical resemblance of individuals. In illustration, the frequently quoted case of two unrelated negroes confined in the Federal penitentiary at Fort Leavenworth is worthy of mention. These negroes, named Will West and William West, resembled each other so closely that the prison clerk found it almost impossible to tell them apart, and their Bertillon measurements agreed with such exactness that they might easily have been the measurements of one man, taken by two operators or by the same operater at different times. Their finger prints nat-

urally proved to be dissimilar, each print a unique tracery of skin ridges. The most diligent search has failed to reveal duplications in finger prints. The London newspaper, *News of the World*, was quite safe when in 1939 it offered a prize of one thousand pounds sterling, the condition being that the winner must have a finger print identical to any one of a series of prints reproduced for the contest in its pages.

APPLICATIONS OF FINGER PRINT IDENTIFICATION

It is unfortunate that in the minds of many persons there is still prejudice against finger printing, simply because it is employed as a means of identifying criminals. This prejudice, however, is gradually dying out. Witness, for example, the growing files of finger prints voluntarily filed in the Federal Bureau of Investigation by persons who appreciate the value of having these permanent records of personal identity.

There are many advocates of universal finger printing. Such registration of all persons would yield benefits more than repaying the expenditure involved. It is not necessary to enumerate all these advantages, which may be illustrated by example. The world's greatest file of finger prints is that of the Federal Bureau of Investigation. From police agencies throughout the United States, and to some extent elsewhere, duplicate finger print cards are sent to this bureau, which functions as a central clearing house of identification records. The Law Enforcement Bulletin published monthly by this organization carries numerous reports on identifications established through its facilities, usually in cases of unknown dead and victims of amnesia. The following instance is typical. The body of an unknown man was found in Meridian, Mississippi. The finger prints were made and forwarded to Washington, where a search in the files disclosed the name, a criminal history including arrest in New Orleans fourteen years earlier, and other recorded information admitting the tracing of relatives and friends. Identifications can be made only if the finger prints are on file, and the irony of these cases is that the persons who can be so traced are at present largely only those with criminal records.

The Argentine Republic has made greater advance than any other nation in the development of civilian finger printing on a large scale. Finger print cards representing about one-half of the population are on file at the capital, Buenos Aires. Starting with the finger printing of applicants for appointment as police, in 1891, compulsory registration since has been gradually extended to include employees of banks and of the postal system, students on matriculation, electoral officials on their appointment, government employees, immigrants, domestic servants, chauffeurs and taxi drivers, some classes of tradesmen, and all the regulated professions—including physicians and dentists.

The general applications of finger prints are of importance to everyone, to the individual and to society. Several special uses are of particular interest to medical men, and some of these may be briefly mentioned.

False personation of applicants for life insurance and false claims for payment of insurance benefits would be obviated by the registration of prints on the form reporting the results of physical examination, subsequent claims being validated by a second set of prints.

In hospitals for the insane the registration of finger prints offers several obvious benefits, among them the proper disposition of those who have criminal histories. Already the Lima State Hospital, in Ohio, and the National Hospital for the Insane, of Cuba, have established this practice.[2]

Many maternity hospitals supplement the more immediately useful means of identifying the newborn, such as bead necklace, bracelet, tape or tag, by making the prints of both infant and mother on the same card immediately after the birth. The fingers of an infant are unsuitable for printing, but either the soles[4] or palms[5] serve as well for the purpose. Castellanos,[2] in Cuba, and Pond[5] in this country emphasize that the value of these records lies not alone in providing for identification in the event of a

real or fancied confusion of two infants while in hospital but also for future reference in proving the identity of the person. It might be added, as a matter of peculiar local importance, that prints of infants born to light-colored negroes would serve in the later life of these individuals as a final court of reference on questions involving their racial origin.

ALTERATION OF FINGER PRINTS

We are accustomed to speak of finger print identification as infallible, and so it is except that the method can not prove identity under conditions which balk its use. If a man is finger printed and it is found that no previous prints are on record, then naturally he can not be identified by this system. And if after finger printing he later appears with both arms amputated, failure to establish his identity on the basis of finger print evidence can not be charged to a defect of the system. In such a case, by the way, sole prints would be recorded as a measure to forestall further complications. Nor can the system be blamed because the patterns of finger tips are damaged[6, 7] by leprosy, scleroderma, x-ray dermatitis, and sometimes in occupations which expose the skin over long periods to the action of lime or other destructive agents. According to Ribeiro, some degree of affection of the finger tip pattern occurs in 80 per cent of the cases of leprosy observed by him. In some instances alteration of the epidermal ridges is observed even in the absence of superficially evident lesions of the hand or fingers, though minute active lesions accompanied by the bacillus of Hansen may be demonstrated in sections. Finger patterns exhibiting the changes typical of leprosy may be restored to normal in the course of treatment.

Damage of this sort utterly destroys the criteria used in identification, when severe and of such extent as to wipe out the patterns of all digits. The marks of individual identity may be preserved, however, for a single finger print or even a part of one is sufficient proof. This fact is strikingly demonstrated in instances of intentional finger tip mutilation, carried out with the hope of frustrating identification. Three criminals who made this attempt[8] may be cited—John Dillinger, "Gus" Winkler and Jack Klutas. Dillinger was said to have applied acid to the finger tips, only a few months prior to his death by shooting. The central regions of the patterns show the effect of this searing, but the remainder of the pattern on any one finger is by itself adequate to prove, under comparison with the earlier record prints, that the man was John Dillinger and no other. Likewise in the prints of Winkler and Klutas, who had gashed the balls of the digits, positive identification can still be made from the undisturbed areas of finger tip skin.

It is well known that some criminals have resorted to plastic surgery in the hope of escaping recognition after changes of facial contours and removal of scars. Updegraff[9] has directed attention to another possible misdirection of plastic surgery toward attempted defeat of finger print identification. The case which he reports was a man who was operated upon for reconstruction of the hands, after burns. The results indicate that homotransplantation of the pattern-bearing areas of skin is feasible, and that the grafted patterns retain their original character. The unscrupulous surgeon who serves the underworld might undertake such transplantation, but Updegraff carefully outlines the points by which the fact of an operation would be disclosed.

SUMMARY

Briefly some of the principles of finger printing have been discussed and their application to identification has been presented.

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A REPORT FROM THE MEDICAL DIVISION OF THE SELECTIVE SERVICE OF LOUISIANA*

F. P. RIZZO, Major, M. C.†
NEW ORLEANS

There are some 18,000 physicians and nearly 7,000 dentists, a total of approximately 25,000 doctors working for Selective Service. In Louisiana there are approximately 425 physicians so employed. You are giving of your knowledge, your time, your office space and facilities, without compensation other than consciousness of work well done. You are making a noble contribution from a noble profession. In spite of this sacrifice of time and energy, the amount of discount, or of feeling of imposition, has been negligible. Of course, there have been instances in which physicians have refused to serve for one reason or another, but, in the main, the response has been highly satisfactory.

In some instances, examining physicians and local board mmbers have been unjustly criticized in their community. In all cases, these people have only done their duty as their conscience dictated and in no instance have their decisions been motivated by personal feelings. All decisions are made after a careful study and a thorough investigation of all angles concerning each individual case. Undoubtedly, there are numerous instances in which the families or friends of registrants attempt to prevail upon the examining physician to indicate some physical defect which is not present, or to enlarge upon defects which are minor and not disqualifying in nature. In these cases, when the examining physician justly ignores the pressure and does what his conscience tells him is right, he may become the object of unjust, and some times malicious criticism. All of this is wrong and contrary to the spirit of service and patriotism demanded of all individuals at this time. It would seem that, even now, many of our citizens are unaware of the gravity of the situation which confronts this Nation. Nevertheless, it is gratifying to know that the Gallup Poll a few weeks ago showed that 93 per cent of the individuals interviewed felt that local boards, including examining physicians, had performed their duties in a most acceptable manner.

As of May 31, 1941, Louisiana's examining physicians have physically examined 35,485 registrants. Of this number, 21,071, or 59.3 per cent, have been found physically fit. Eight thousand six hundred and twenty-five, or 24.3 per cent, have been recommended for Class I-B, and 5,789, or 16.3 per cent, have been placed in Class IV-F, or unfit for any military duty.

CAUSES FOR REJECTION

During the course of these examinations, some interesting facts have been uncovered. It has been found that 22 per cent of those failing to pass the examination failed because of dental deficiencies; 15.26 per cent have been disqualified by reason of cardiovascular disturbances. These included persistently high pulse rate and blood pressure, valvular heart disease and varicosities, such as to interfere with military training. Musculo-skeletal defects accounted for 14.83 per cent of rejections. These included deformities of extremities, or of the body, shortening or ankylosed joints; sequelae of infantile paralysis, symptomatic flat feet and marked disturbances in the height-weight ratio. Of those examined, 10.92 per cent have been rejected for nervous and mental diseases. Venereal diseases, such as syphilis and gonorrhea, accounted for 8.81 per cent of the rejections. Visual defects have accounted for 8.03 per cent; hernia, 5.79 per cent; eye, ear, nose and throat conditions, 3.19 per cent; and lung disturbances 1.99 per cent of the rejections. Miscellaneous disabilities, such as illiteracy, those having court records, and other undesirables have

*Delivered before the Third District Medical Society in Lafayette, June 8, 1941.

†From the Medical Division, Louisiana State Headquarters for Selective Service.

accounted for 9.15 per cent of the rejections.

When it is remembered that this large percentage of physical defects is among the younger men who are supposed to be in the prime of life, it is readily apparent that the situation uncovered in the course of these examinations by the Selective Service System is one which requires close study and definite plans for remedial measures if the health of the Nation is to be improved for the future. In the case of all registrants who have failed to pass the physical examination, the Local Board forwards a letter drawing attention to their physical defects and urges them to have these corrected, not only for the benefit of their own health, but for that of the State and Nation as a whole. In many instances this advise is being followed. In some conditions, notably syphilis, and other venereal diseases, the Public Health Service is taking a very active part in promoting curative treatments. This agency is making an earnest effort to contact every man of whom it obtains knowledge, and urging him to obtain treatment. If he cannot afford treatment from private sources, he is assured that the State Department of Health is prepared and willing to give curative treatment without expense.

It may be well at this time to draw attention specifically to some of these causes for rejection. In over half the cases of syphilis, the registrant had no suspicion of harboring the disease and, undoubtedly, he would have gone on, become married and perpetuated the disease in his family. Fortunately, nearly all of these registrants who have advanced to the point of physical examination are young, unmarried men, and they have not had time to damage their own health materially, nor that of others. When it is considered that approximately 9 per cent of young men are infected with syphilis, it can be seen that by detecting these cases before great damage has been done, such as to the cardiovascular, cerebrospinal and visceral system, and promptly instituting treatment, the health of the Nation will be improved materially from the standpoint of this disease in the years to come. This will allow their offspring to have a chance to be free from this disease, and theirs after them. Thus, we can begin to see the magnitude of the improvement in general health that can be expected.

In many instances the registrant did not know that he had a hernia, heart disease, high blood pressure, until it was brought to his attention during the course of his examination, or by the letter that he subsequently received. A very large number who have insufficient teeth properly to masticate their food had thought nothing of it until they had been rejected. In most cases, they do not realize that this will definitely affect their general health in the course of time. It is also evident that the correction of other physical defects and diseases, which are not at present disabling, will make these young men healthier and lead to a general improvement in the health of the Nation in the future. It is unfortunate that all registrants do not go on to the point of physical examination because of being placed in a deferred classification for one reason or another. Undoubtedly, if all these men were examined, many more instances of diseases or physical disability would be uncovered and probably receive adequate treatment before great damage is done.

NEUROPSYCHIATRIC PROBLEMS

Before concluding this part of my discussion, I would like to touch upon another important subject, and, that is neuropsychiatry as applied to the Selective Service System and the Army. Experiences gained from the last war and since the last war, in this respect, have made us very careful. As estimate of the cost to the Government of every patient of this kind, including the cost of buildings, compensation and other exepnses to take care of them, amounts to $30,000 per individual. In reviewing this subject, it is noted that during the World War 14 per cent of those examined by Local Boards were rejected by reason of mental conditions. Another 8 per cent were rejected at induction stations. In spite of this, 98,000 men of 4,250,00 inducted into

the military service left the service with mental and nervous diseases. A large percentage of these had their mental state and disease before they entered the service. In order to avoid a repetition of this costly venture, it behooves the examining physicians and Medical Advisory Board specialists to be constantly on the alert for this type of case. It is necessary for us to keep in mind the Army is not to be considered a mental clinic. Usually, if an individual is a mental problem in civilian life, he becomes more so in the Army. Neither does the chronic alcoholic, the trouble-maker, the social misfit, the person who is never satisfied or who jumps from job to job, or is continually in trouble with the law enforcement agents, make a good soldier.

Another point to be remembered is that a soldier who is physically or mentally unfit to perform his duties is not only of no use but is an actual hindrance for he requires the attention of others, perchance in time of stress, of an already overworked medical department. The old notion that the Army can make a man out of a misfit in his community is all wrong, especially in cases of mental or personality misfits.

Many of these cases are difficult to detect and they will tax the ingenuity and skill of the most experienced. Any mental, emotional or other kind of instability would be cause for rejection. Those with queer behavior and who are particularly noted for this in their neighborhoods should be rejected, regardless of their satisfactory physical condition. Careful examination and history taking will often be required. The following objections in this respect should be our goal: (Quoting Dr. Harry Stack Sullivan, Psychiatric Advisor to the National Headquarters Selective Service System). "(1) The trainee's physical and mental condition should be such that a year of rigorous military training will not harm him. (2) That he should be able to fit into society and again find his place in the social order after demobilization. (3) He should reasonably be expected to remain capable of service at any time during his ten years' reserve status, should war come upon us."

The question is frequently asked, why reject so many men who are able to do physical work without any apparent damage. The feeling comes to all of us sometime that the Army is so big that there should be jobs for all sorts of men, and that places can be found for those who have been refused, but who are apparently fully able to fill some kind of place. It is true, the Army is large and there are all sorts of places for men in training, but, for the present, only those most fit for general military duty are wanted. It is felt that the time is too short and the task too great to spend time and labor on any except the best men available. This point has been missed by some of our people.

By the term "General Military Duty" we mean that when one is fit for such duty he is able to do any service that he may be called upon to perform; to march with a pack for 20 miles and at the end of the march to engage in a battle, if necessary; to live in barracks with his fellow soldiers, caring for himself, and so conducting his barracks life that he is not objectionable to his fellows; to live, if necessary, in camps under trying and uncomfortable conditions, without undue complaint of the heat, the cold and other annoying conditions, and ready at all times to respond in a soldierly manner to any demand that may be placed upon him.

It must be remembered that it is for the Army that we are to procure men and, therefore, they set a physical standard to be met by the inductees. We cannot change them. Selective Service has, however, the privilege of suggesting changes to the Army. A number of changes have been made and others are under consideration at the present time. The objective at this time is to secure an Army that will be tops physically, mentally and morally; that they will serve one year on active duty and ten years in the reserve.

INDUCTION STATIONS

Conflicts have occurred between the findings of the local board examining physicians and induction station physicians. In the main these have been due to unfamili-

arity with the regulations on the part of the examining physicians. Also, the examinee very often acquires new conditions, after the examination, either accidently or intentionally; especially is this so in the case of venereal diseases.

On the other hand, the position of the induction station physicians must be realized. They stand as the guardians of the portals of entry into the Army. It is their sole responsibility to see that none but the physically fit enter these portals. In performing their part of the job, we of the Selective Service System sometimes feel that they are too zealous and turn back men whose physical condition is such that in our opinion renders them classifiable in I-A. Undoubtedly this occasionally happens but we must not lose sight of the fact that these induction station physicians are also human and thus subject to human fallibility. Their examination, however, must be exact and it is only natural that they should detect defects and turn back men who have passed their local board. This is not necessarily a conflict, but only challenges each to study and understand the objective of the other, which, after all, is the common objective.

Of course, many of these registrants who fail to pass the physical examination are not rejected so far as future service is concerned should they be needed, as approximately 25 per cent have been placed in Class I-B and are qualified for limited military service. To date, there has been no call for any of these. Nevertheless, they form an extremely large pool from which large numbers could be immediately drawn in the case of necessity.

I shall now approach the subject which is of interest to every one of us; I refer to medical personnel. There is an over all shortage of doctors in the country. Distribution is poor. In a few of the larger metropolitan areas, there may be a surplus, but in the vast rural areas of the country shortages exist everywhere.

The defense program as now outlined, will require 7,900 physicians for the Army, 900 for the Navy, 100 for the Public Health Service and 100 for the Veterans' Administration, a total of 9,000 medical officers, in addition to present staffs. To date, 90 medical reserve officers have been called to active duty from Louisiana.

It is estimated that when services are filled, under existing regulations about one-half of the medical officers will return to civilian practice after one year of military duty. Therefore the medical Federal services will require about 4,500 newly commissioned officers each year. These must be obtained from the annual graduates of the medical schools and hospitals and from the practicing profession of the country.

THE MEDICAL RESERVE CORPS

Approved medical schools of the United States graduate about 5,000 per year. It is estimated that about 60 per cent of these can be counted upon for duties in one of the services after completion of an internship. On this basis there will be about 3,000 medical men annually available for the military services to meet an estimated need of approximately 4,500. The shortage of about 1,500 will have to be drawn from civilian practice and through the Army and Navy Medical Reserve Corps.

An expansion of the military services beyond the present program will require 6.5 additional medical officers for each 1,000 men added to the armed forces. There are 13,500 physicians in the Medical Reserve Corps. The experience of the Corps has been that about 75 per cent of these men are fit for active service. Counting those who are now on duty it is estimated that the present Reserve Corps will be exhausted by August, 1942.

There is no limit to the number of commissions available to qualified doctors in the Medical Reserve Corps of the Army. The Army is anxious to build up a pool of Medical Reserve officers which will take care of their needs throughout the emergency. It is felt that doctors in the military age who are qualified should secure a commission and prepare to serve their year. A memorandum from National Headquarters of Selective Service, issued on May 2, has

stated specifically that if a doctor does not do this and is found to be surplus in his community, there can be no excuse for his deferment—to the contrary, he should be inducted when his number comes up. The War Department, as well as all interested groups, concurs that the initial or first internship year is a part of the basic medical education. Young doctors who hold reserve commissions are exempted from the operation of Selective Service, by their commission, and it has been stated, as a matter of policy of the War Department, that young doctors holding commissions and serving their initial internship year will not be called to active duty. In the same memorandum from National Headquarters, it was stated: "It is of paramount importance that the supply be not maintained but encouraged to grow and that no student or intern be called to military service, before attaining that status."

The responsibility for deferment lies only upon the Local Board, subject to review by the Appeal Boards. It is a question of an understanding of the situation by the Local Boards. We, at State Headquarters, are making every effort to see that this directive is carried out as intended.

SUMMARY

It is felt that there is no difficulty or controversy which cannot be settled by an understanding between all persons concerned. The success of the Selective Service System and the present supreme effort depends upon the wholehearted cooperation of the citizens of this great democracy. There are, of course, rough places to traverse and at times some faint-hearted among us may become discouraged, but I am certain that the medical profession can be counted upon to do its part nobly and well, no matter how great the emergency.

NEW ORLEANS
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SELECTIVE SERVICE EXAMINATIONS

There is published in this month's issue of the Journal a report from the Medical Division of Selective Service of Louisiana. It is earnestly hoped that this article will receive the attention of the members of the medical profession throughout the state and that they will take cognizance of the information obtained in the article, more particularly that which has to do with the physical condition of the men examined for the draft.

It is obvious that amongst the causes of rejection, many of the conditions are of comparatively minor moment and many of these conditions bringing about rejection are remedial. Slightly over one-fifth of the men coming before the examining boards failed to pass the examination because of dental faults. This condition may be the result of deficient diet, lack of care, or the easiest way out, by which is implied that a tooth is extracted as soon as caries sets in. Certainly there is need for dental hygiene and dental education in the state. The musculo-skeletal defects which a few less than one-eighth of the men were rejected for, are frequently conditions which can be relieved. Many of the orthopedic defects are capable of being improved, if not cured, and some of the deformities can be improved to such an extent that they would not cause any disturbance in active civil life. A hernia likewise is and can be corrected; the same thing applies to many of the eye, ear, nose and throat conditions which caused rejection. The venereal disease rate is high but not unusually or markedly so; 8.81 per cent of men who are in the period of active sexual life present not an unduly high figure as venereal disease rates go, but one which is to be condemned. Venereal diseases are preventable and the venereal disease rate should be, and ought to be, low. In so far as neuropsychiatric conditions are concerned, fundamentally most of these depend upon the gene inherited from ancestors. The remedy for such conditions is most certainly not clearly defined at the moment.

Major Rizzo points out that in many instances the men examined were unfamiliar with the fact that they did have physical defects which, incidentally, could have been discovered earlier in life. This illustrates well the necessity of the yearly physical examination for the adult and more particularly a complete and thorough examination of adolescent children, at which time many defects may be discovered by careful study of their body. The same statement applies to the cases of syphilis. Many men did not know that they had the disease

and were indeed fortunate that it was discovered and that measures will be taken to prevent the serious late complications of this scourge.

It is disturbing to think that only 60 per cent of the young men in the State of Louisiana are physically fit to do general military duty. Of course the standards are high; it does not mean that the 40 per cent who do not meet the Army requirements are not able to carry out civilian occupations which will be appropriate to their physical condition. After all, only one-sixth of the men were totally physically or mentally unfit for military duty. If these men have correctable defects, and they are promptly attended to, their life expectancy and their physical well-being during life should not be impaired. Men who are classified as deferred have, for the most part, only minor defects which would in no way detract from their ability to engage in practically any kind of occupation of civil life. It is the 16 per cent who are in class IV-F that the physicians of the state will be called upon to aid. A great deal can be done for these men which will give them a happier and probably a more lucrative life. Local boards, in writing, are informing the men of the reasons they failed to pass the physical examination. Many doctors will see these letters and will be called upon to give their best service and advice to rehabilitate the men rejected on account of physical defects.

THE PRESCRIBING OF DRUGS

The Federal Food and Drug Administration of the United States Department of Agriculture has been exerting increasing pressure to stop the more or less promiscuous selling of potent drugs without a physician's prescription. It may be that physicians may not be in accord or agreement with the decisions made by the Food and Drug Administration as to the danger of certain drugs. The average doctor does not think that the barbiturates are dangerous or that thyroid extract is particularly harmful; probably they are not under ordinary circumstances but when one considers the number of attempted suicides with the barbiturates or when one cogitates on the dangers of a person with subclinical hyperthyroidism taking large doses of thyroid extract, it can be readily appreciated that the decisions of the Food and Drug Administration are correct.

As a matter of fact counter dispensing without a prescription hurts the doctor's pocket. If a presumptive patient takes drugs which have a definite therapeutic effect and which are potentially dangerous and yet sold without a prescription, the doctor loses a patient and the person taking and medicine might definitely be harmed.

Some physicians are objecting to the attitude of the Food and Drug Administration in that they do not wish to write prescriptions for drugs which previously had been ordered by word of mouth. This is a short-sighted point of view. The few minutes it takes to write a prescription are minutes well spent. Ordering proprietary preparations, instead of prescribing them, is another habit doctors have which should not be condoned for innumerable reasons. The average physician may not know that a proprietary preparation costs no more when dispensed as a prescription in an unlabeled box or bottle than it does when dispensed in the original wrapper which may contain propaganda for the use of the drug and which may come close to claims which might be a cause for calling the preparation misbranded. Incidentally, misbranding is so designated when a drug is called by a name not recognized in the U. S. Pharmacopeia or in case it is a fabricated compound with two or more ingredients, if the common name of each ingredient, as well as the quantity of alcohol in the compound, is not placed on the label. Unproved therapeutic claims are forbidden. There is a large number of potentially dangerous drugs, if used indiscriminately and promiscuously, which are not supposed to be sold over the counter without a physician's prescription. Elsewhere in the Journal there is published recent information from the Food and Drug Administration relative to drugs that can be sold only upon the prescription of a physician or dentist.

TWO INNOVATIONS IN TREATMENT

In a recent number of the Journal of the American Medical Association there were presented two new methods of treatment for two totally different conditions. Inasmuch as both of these two conditions have never had any really effective type of treatment, it might be well to discuss them briefly.

The first is not, strictly speaking, a method of treatment, but is a method to prevent one of the most disturbing complications that is likely to occur following operation, namely postoperative thrombosis. From Stockholm, Crafoord and Jorpes[1] have sent their report dealing with the use of heparin in preventing thromboembolic complications after surgical procedures. These investigators gave heparin to 325 patients, in no one of whom did postoperative thrombosis occur. In a control series of some three times as many patients, thromboembolic complications occurred in 9 per cent. The patients in both series were in the thrombosis age period and the operations were all major operations, for the most part abdominal in character.

The authors started heparin four hours after operation and continued the use of the drug for five to ten days. The preparation was given intravenously in a 5 per cent sterile solution. The dose of heparin varied from 250 to 350 milligrams a day. No unfavorable results and no complications followed the use of the preparation. In addition to the patients they studied, they also mention 88 patients with gynecologic disorders who failed to have thrombotic expressions after operation, whereas in the control series there occurred these complications in 4 per cent of the patients.

The second condition, giardiasis, is an extremely difficult and most unsatisfactory one to treat. A good many believe that giardiasis does not cause symptoms; however, this has been disproved in recent years.

The treatment of giardiasis, suggested by Hartman and Kyser,[2] is the use of atabrine. They found that this drug was efficacious in 97 per cent of instances in eradicating giardia from the intestinal tract. Treatment consisted of giving 0.1 gram three times a day for five days. The method is simple and apparently efficacious. The only possible contraindication to the administration of atabrine is advanced liver disease. If the atabrine treatment of giardiasis is effective as these reporters believe, an efficient and simple method has been evolved for the cure of this tenacious condition.

1. Crafoord, C., and Jorpes, E.: Heparin as a prophylactic against thrombosis, J. A. M. A., 116:2831, 1941.

2. Hartman, H. R., and Kyser, F. A.: Giardiasis and its treatment; a clinical study, J. A. M. A., 116:2835, 1941.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the month of July the Society held one regular scientific meeting. The program was as follows:

1. Intracranial Foreign Bodies—Review of Literature and Case Report
   By Drs. Gilbert C. Anderson and Leon Hart
2. Some Newer Developments in the Treatment of Cerebrospinal Fever
   By Drs. C. J. Tripoli and R. E. Selser
3. Anlage Tumors of the Lung: Their Protean Histological Patterns in Bronchiogenic Neoplasia
   By Drs. William H. Harris and Herbert J. Schattenberg.

NEWS ITEM

Dr. H. B. Alsobrook recently addressed the Kiwanis Club at a luncheon-meeting at the St. Charles Hotel.

Dr. James T. Nix delivered the baccalaureate address at the 87th commencement exercises of St. Stanislaus College.

Dr. H. W. Kostmayer read a paper on the Endocrine Glands and the Therapeutic Use of Some of the Available Products at a meeting of the Northeast Mississippi hospital staff of the Prentiss County Medical Society at Booneville, Mississippi, July 7.

Dr. A. J. Hockett was recently appointed chairman of the American Hospital Association's committee on physical defense of civilian hospitals.

Dr. T. A. Watters attended the 16th seminar of the Committee on Cultural Relations with Latin America, recently held at Mexico City.

Dr. Walter J. Otis was made a fellow of the American Association on Mental Deficiency at the 65th annual meeting of this organization recently held in Salt Lake City.

TREASURER'S REPORT

Bank Balance, May 31, 1941	$6,097.08
June Credits	$ 689.01
Total Credits	$6,786.09
June Expenditures	$ 677.34
Actual Book Balance, June 30, 1941	$6,108.75

CALENDAR OF MEETINGS

August 4. Orleans Parish Medical Society Board of Directors, 8 p. m.

August 5. Eye, Ear, Nose and Throat Staff, 8 p. m.

August 6. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.

August 7. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

August 12. Eye, Ear, Nose and Throat Society, 8 p. m.

August 13. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.

August 18. Clinico-pathologic Conference, Baptist Hospital, 8 p. m.

August 20. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.

Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.

August 21. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

August 27. Clinico-pathologic Conference, Charity Hospital Morgue Amphitheater, 1:30 p. m.

French Hospital Staff, 8 p. m.

August 28. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

August 29. L. S. U. Faculty Club, 8 p. m.

Edwin L. Zander, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Second Tuesday of every month	Bastrop
Orleans	Second Monday of every month	New Orleans
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

SOUTHERN MEDICAL ASSOCIATION MEETING

The Southern Medical Association meeting will be held in St. Louis on Monday afternoon, Tuesday, Wednesday and Thursday, November 10-13 instead of Tuesday, Wednesday, Thursday and Friday forenoon, November 11-14, as previously announced.

The Association will open at noon on Monday, the registration beginning at that time, the scientific programs beginning at 2:00 p. m. and continuing through Tuesday, Wednesday and Thursday, all Association activities being concluded in the late afternoon of Thursday. The registration, scientific and technical exhibits, all clinical sessions, all sections and all conjoint meetings, will be held at the Municipal Auditorium.

The General Session, open to the public, will be held on Monday evening; the General Session for the address of welcome, the President's Address and the Report of Council, followed by the President's Reception and Ball, will be on Tuesday evening; and the Alumni Reunion Dinners will be on Wednesday evening, all these evening activities to be held at the Jefferson Hotel.

LeDOUX HONORED

Dr. Lucien A. LeDoux was elected president of the New Orleans Gynecological and Obstetrical Society at the July meeting. The following other officers were elected: Dr. J. W. Reddoch, vice-president; Dr. E. C. Smith, second vice-president; Dr. E. H. Countiss, secretary, and Dr. H. B. Alsobrook, treasurer. The election was held at an informal dinner meeting at Kolb's Restaurant where the organization was entertained by Dr. E. L. Zander, retiring president.

NEWS ITEMS

Acting Assistant Surgeon Claude G. Eccles, U. S. P. H. S., has been ordered to the U. S. Marine Hospital at Carville for medical duty. Dr. Eccles will replace Acting Assistant Surgeon Sam Black who has been ordered to Memphis, Tennessee.

Acting Assistant Surgeon Harold Whitted has been ordered to New Orleans for duty in the United States Public Health Service.

Dr. Wm. H. Gordon, U. S. P. H. S., has arrived in New Orleans for duty at the United States Marine Hospital.

Assistant Surgeon Charles L. Williams, Jr., has been relieved from duty in New Orleans and ordered to proceed to Raleigh, N. C., for duty in the State Health Department.

Assistant Surgeon Llewellyn E. Kling has been relieved from duty in New Orleans and ordered to proceed to the Municipal Health Department, Omaha, Nebraska, for duty.

Assistant Surgeon James L. Baker has been relieved from duty at the U. S. Marine Hospital, New Orleans, and ordered to the U. S. Quarantine Station in the same locality.

Assistant Surgeon George E. Parkhurst has been relieved from duty in New Orleans and ordered to proceed to Johns Hopkins Hospital for duty.

Assistant Surgeon Robert G. Wetterstroem has been relieved from duty in New Orleans and ordered to proceed to Washington, D. C.

Assistant Surgeon Edward C. Budd has also been relieved from duty in New Orleans and ordered to proceed to Washington, D. C.

At the annual meeting of the Phi Rho Sigma Medical Fraternity held at Lake Wawasee, Indiana, amongst the officers elected were Dr. Francis L. Jaubert, of New Orleans, and Dr. Dudley M. Stewart, formerly of New Orleans, as members of the Grand Council.

Dr. H. L. Kearney was elected to active membership in the American Broncho-Esophagological Association at its annual meeting in June of this year.

Dr. Julian Graubarth, president of the Louisiana Pediatric Society, has been appointed state chairman for Louisiana of the American Academy of Pediatrics, succeeding Dr. Robert A. Strong, resigned.

The seventh annual meeting of the Mississippi Valley Medical Society will be held at Cedar Rapids, Iowa, October 1-3.

The 1941 annual meeting of the National Society for the Prevention of Blindness will be held in New York City, December 4-6.

The American Bureau for Medical Aid to China has planned to send $5,000 a month to China. Contributions for this cause may be sent to the United China Relief, 1790 Broadway, New York City.

The twentieth annual scientific and clinical session of the American Congress of Physical Therapy will be held September 1-5 at the Mayflower in Washington, D. C.

SAVE YOUR RUBBER

Hospitals throughout the state are actively participating in a campaign to save all rubber in behalf of national defense. The individual doctor is requested to save his old rubber goods for this purpose. Mr. Frank Groner, of the Baptist Hospital, New Orleans, president of the State Hospital Association, will be very glad indeed to receive this rubber and it may be sent direct to him at the Baptist Hospital.

INFORMATION CONCERNING DRUGS THAT SHOULD BE SOLD ONLY TO OR UPON THE PRESCRIPTION OF PHYSICIANS OR DENTISTS

The Food and Drug Administration, Federal Security Agency, has received numerous requests from drug manufacturers, retail and wholesale drug associations, and others, for a list of those drug products which it considers dangerous when sold otherwise than on the prescription of a physician, dentist, or veterinarian licensed by law to administer drugs.

In answer to such requests, the Administration has pointed out that the Food, Drug, and Cosmetic Act places upon the manufacturer and the distributor the responsibility for properly safeguarding the marketing of drugs which may be dangerous to the purchaser if distributed without restriction. Obviously, it is impossible to list all drugs which may be dangerous since not only the compositions but also the directions for use and the conditions in which their use is recommended may have a very definite bearing on the question of safety or danger. As examples of drugs which are considered dangerous when distributed for use otherwise than on prescription, the following have been mentioned:

Aconite
Aminopyrine
Barbiturates
Benzedrine sulfate (for internal use)
Cantharides (for internal use)
Chrysarobin or goa powder
Chrysophanic acid
Cinchophen, neocinchophen, and other cinchophen derivatives
Colchicine
Colchicum
Emetine
Phosphides
Phosphorus
Radium
Sulfanilamide
Sulfapyridine
Sulfathiazole
Tansy, tansy oil
Thiocyanates
Thyroid

The anthelmintic drugs: Carbon tetrachloride
Tetrachlorethylene
Male fern (aspidium)
Santonin
Wormseed oil (chenopodium oil)
Thymol

It is our opinion that preparations containing bromides should not be sold without prescription if the dosage provided involves the consumption of more than 30 grains per day or more than 15 grains during any 3-hour period.

The same is true of acetanilid, in the case of medicines that provide a total daily intake of more than 5 grains or more than 2½ grains during any 3-hour period.

For bromide-acetanilid combinations, we have suggested that preparations for lay use should not provide more than a total daily dose of 15 grains of sodium bromide and 5 grains of acetanilid, or more than 7½ grains of sodium bromide and 2½ grains of acetanilid during any 3-hour period. Comparable amounts of other bromide preparations should, of course, be subjected to the same restrictions.

There is ample scientific evidence to support the view that preparations providing a daily dose of more than 15 grains of acetophenetidin or more than 15 grains of antipyrine are dangerous within the meaning of section 502 (j) when distributed for indiscriminate lay use. Investigations which are currently in progress strongly suggest the probability that somewhat smaller daily doses of these drugs may likewise be dangerous when consumed indiscriminately. *After public notice*, our regulatory program will, of course, include actions based on sales of acetophenetidin and antipyrine under circumstances providing for a somewhat smaller daily dose if scientific opinion becomes available to establish the illegality of such sales.

In our judgment, epinephrine in solution of 1% or stronger cannot safely be indiscriminately used, and the same is true of ipecac in daily dosage greater than 10 grains, as well as of strychnine in a daily dose greater than 1/20 grain.

We have also expressed the opinion that products containing therapeutically effective proportions of digitalis, squill, strophanthus, or other pharmacologically related drugs may not be safe for indiscriminate distribution.

It has been our experience that manufacturers of such drugs as have been mentioned have taken advantage of the regulation permitting omission of directions for use and substitution of the so-called "prescription legend." Where the legend "Caution: To be used only by or on the prescription of a physician (dentist, or veterinarian)" appears upon the package in lieu of directions for use, it is the obligation of the retailer to observe the injunction that the article be dispensed only upon prescription.

The fact that the Federal law is applicable to the distribution by retailers of drugs which have been in interstate commerce in no way restricts the enforcement of State and local acts relating to the sale of drugs or the practice of pharmacy.

HEALTH OF NEW ORLEANS

The Bureau of the Census, U. S. Department of Commerce, has reported that for the week ending June 14 there were 141 deaths in the City of New Orleans as contrasted with only 106 the previous week. Eighty-three of these deaths were in the white and 58 in the colored population. There were 16 deaths in children under one year of age; 11 white and five negro. For the week closing June 21 there were reported 125 deaths, divided between the two races; white 72 and negro 53. In this week there were nine deaths in infants under one year of age, one third of whom were white and two-thirds negro. The number of deaths for this week showed quite a considerable fall over the previous week when 141 deaths were listed. For the week which terminated on June 28, of the 140 deaths reported in the city, 96 were in the white and 44 were in the negro and ten in infants under one year of age. There was a slight increase in the number of deaths in the City of New Orleans for the week which ended July 5. Of the 146 deaths reported this week, 93 were in the white population and 53 in the negro. There were 11 infant deaths, all of which were in the white race except one.

INFECTIOUS DISEASES IN LOUISIANA

The morbidity report of the Section of Epidemiology of the Louisiana State Department of Health for the week ending June 14, showed that syphilis, as practically always, led all the other reportable diseases in incidence. During this week there were listed 130 cases of this disease. Other diseases occurring in numbers greater than ten, in numerical sequence, are as follows: 39 cases each of pulmonary tuberculosis and gonorrhea, 18 of measles, 16 each of cancer and typhoid fever and ten of pneumonia. The typhoid fever cases were scattered throughout the state, no one parish had more than two except Caddo which reported seven. During this week there was reported among the rarer diseases, a case of poliomyelitis in Caldwell Parish and two cases of cerebrospinal meningitis, one in Orleans Parish and one in Ouachita Parish. The following week there were only six reportable diseases occurring in the state in numbers greater than ten. These included 371 cases of syphilis, 46 of gonorrhea, 19 of pulmonary tuberculosis, 16 of whooping cough, 11 each of typhoid fever and cancer. New typhoid fever cases were again spread throughout the state, except that five were found in Richland Parish. Of the unusual diseases, one instance of typhus fever was discovered in Avoyelles Parish, two in Iberia Par-

ish, and two in Lafayette Parish. One case of poliomyelitis was reported from Rapides. In the week which terminated June 28, there were listed 170 cases of syphilis, 40 of pulmonary tuberculosis, 24 of typhoid fever, 21 of cancer, 19 of gonorrhea, 14 of whooping cough and 11 of pneumonia. Apparently the mild epidemic of typhoid fever in Richland Parish was at its height as there were reported ten additional cases. East Carroll reported five cases and the other cases were spread widely throughout the state, no one parish reporting more than two. This week there were two cases of poliomyelitis, one in Ascension Parish, and one in East Baton Rouge. For the week which closed July 5, the twenty-seventh week of the year, there were recorded 108 cases of syphilis, 30 of pneumonia, 25 of gonorrhea, 23 of pulmonary tuberculosis, 21 of cancer, 12 of whooping cough and ten of malaria. The mild epidemic of typhoid fever in Richland apparently was under control because no new cases were reported this week. Likewise there were no new cases of poliomyelitis. One case of typhus fever was discovered in Vermilion Parish and one case of cerebrospinal meningitis in Cameron. Not a single parish reported more than one case of typhoid fever this week. For the week ending July 12, gonorrhea for the first time in many months led the list of reportable diseases with 120 instances, followed by 104 of syphilis, 34 of malaria, 30 of pulmonary tuberculosis, 27 of whooping cough, 20 of dysentery, 19 of pneumonia, 12 each of cancer and typhoid fever. A case of poliomyelitis was reported from Orleans Parish but this case was brought into the city from an outlying parish, name not given. Three typhoid fever cases reported from Orleans Parish were also imported. The other cases were scattered throughout the state, Sabine and St. Mary with two each were the only parishes with more than one case.

The incidence of typhoid fever for the weeks recorded is less than the five year average of the corresponding weeks. On the other hand, syphilis incidence is quite markedly increased, probably due to the fact that there is a more complete reporting of these cases.

ARTHUR CAIRE, SR.
(1868-1941)

Dr. Arthur Caire, Sr., for many years a member of the State Medical Society, died July 16 at his home at the age of seventy-three.

Dr. Caire graduated from Tulane, in pharmacy, in 1889 and from the medical school in 1892. From that time on he practiced in New Orleans with skill and success. He is survived by a son, Dr. Arthur Caire, Jr., and a daughter, Mrs. George P. Montagnet.

A TRIBUTE TO DR. ARTHUR CAIRE, SR.

A great man has been called to his reward, after fifty years of unselfish devotion to his profession and the people of New Orleans.

Some doctors achieve fame and a great name by discovering some new line of treatment, some new drug, something new in the line of surgery or by articles written in the journals. He did none of these but he won fame in the hearts of thousands of the people of New Orleans by a lifetime of sacrifice and devotion to the relief of their pains.

With his passing goes one of the last of the old family doctors who not only looked after his patients when they were sick but was always ready to listen to and advise them in times of trouble.

In the twenty years that he and I had offices together I never knew him to speak unkindly of anyone.

The people of New Orleans have lost a great physician, and the profession one of its oldest and best members. I have lost a long and very dear friend.

Jos. D. Martin, M. D.

RECENT DEATHS

Four members of the State Medical Society have recently passed away.

On June 13 Dr. Douglas Culpepper McBride, of Alexandria, a member of the Society for twenty years, died from a stroke after an illness of two months. He was in his forty-eighth year.

Dr. Luther Archibald Youngs, of Paradis, born in 1878, passed away on the fifteenth of June.

Dr. Joseph T. Abshire, of Kaplan, who was born in 1868, graduated in medicine in 1889 and a member of the Society for twenty-six years, died on the twenty-second of June.

Dr. John James Haydel, of Plaucheville, who graduated from Tulane in 1901, died on June twenty-fifth.

WOMAN'S AUXILIARY
Louisiana State Medical Society

OFFICERS

President—Mrs. Aynaud F. Hébert, New Orleans.

President-Elect—Mrs. Clarence B. Erickson, Shreveport.

First Vice-President—Mrs. H. O. Barker, Alexandria.

Second Vice-President—Mrs. Cecil O. Lorio, Baton Rouge.

Third Vice-President—Mrs. B. L. Cook, Minden.

Fourth Vice-President—Mrs. R. W. O'Donnell, Monroe.

Treasurer—Mrs. Daniel J. Murphy, New Orleans.

Recording Secretary—Mrs. Rhodes Spedale, Plaquemine.

Corresponding Secretary—Mrs. Chas. R. Hume, New Orleans.

The National Meeting in Cleveland

At the annual meeting of the Woman's Auxiliary to the American Medical Association in Cleveland, June 2-6, the total registration was 1,400, including 150 delegates, 29 alternate delegates, 47 members of the National Board, 569 members and 605 guests. The registration at the annual meeting in New York last year was 1,321. The president, Mrs. V. E. Holcombe, Charleston, W. V., reported that the total enrollment of members in the Auxiliary was 27,982, which represents a steady growth through the years; in 1934 the membership was only 12,857.

In her president's message Mrs. Holcombe reviewed the activities of the Auxiliary during the last year and pointed out some of the important services that the groups are rendering in various states. Ohio, a newcomer to the ranks of the Auxiliary, already has more than 1,500 members in its first year. Mrs. Holcombe, during the year of her presidency, appeared on various programs in thirty-two states, including state and county auxiliary meetings and many lay gatherings. Owing to conflicting engagements and demands of other duties, she was unable to accept invitations from the remaining states of the union. The growing appreciation of the work of the Auxiliary by some state medical societies, she said, is evidenced by the fact that they furnish funds for carrying on various auxiliary projects.

The president-elect, Mrs. Roscoe E. Mosiman, Seattle, in her inaugural address said that "our obligation involves the education of the lay woman as well as the doctor's wife in those endeavors that make for a better health environment;" that Hygeia, the Health Magazine, is the finest instrument available for creating confidence in and appreciation for scientific medicine. A wider distribution of Hygeia in the public schools may in time greatly simplify the problems of health education. The president-elect suggested that subjects particularly pertinent to home defense be included in auxiliary programs this year, including problems of food conservation, an adequate diet for the civilian population and recreation projects. The practical application of knowledge along these lines which has been gained since the last World War has great possibilities with respect to home defense. The Auxiliary should assume at all times and under all conditions its share of responsibility for safeguarding the ideals of American medicine.

The Auxiliary voted unanimously to offer the following concrete plan to the Committee on National Defense of the American Medical Association:

1. To establish a housing registry in cities near military camps, with a list of graduated rentals for families of doctors who are stationed in the camps.
2. To provide some type of recreation for doctors and families and to help them in becoming oriented in their new environment.
3. To inform doctors when and where local medical society meetings are held and invite them to attend, thus providing for them a continuous contact with the activities of organized medicine.
4. To encourage doctors and their wives to keep in contact with their home medical societies and auxiliaries.
5. To encourage the home medical society and auxiliary to keep a record of the whereabouts of its members who are in the service of the United States Government and the defense setup.

Following are the newly elected officers of the Woman's Auxiliary to the American Medical Association:

President—Mrs. Roscoe E. Mosiman, Seattle.

President-elect—Mrs. Frank Haggard, San Antonio, Texas.

First Vice-President—Mrs. John Bauer, Brooklyn.

Second Vice-President—Mrs. A. E. Anderson, Fresno, California.

Third Vice-President—Mrs. H. E. Christenberry, Knoxville, Tenn.

Fourth Vice-President—Mrs. P. R. Urnston, Bay City, Mich.

Recording Secretary—Mrs. Samuel Flowers, Middlesboro, Ky.

Treasurer—Mrs. David W. Thomas, Lock Haven, Pa.

Directors for one year—Mrs. V. E. Holcombe, Charleston, W. Va.; Mrs. Fred C. Oldenburg, Cleveland; Mrs. Eben J. Carey, Wauwatosa, Wis.; and Mrs. Carlton F. Potter, Syracuse, N. Y.

Directors for two years—Mrs. John B. Farley, Pueblo, Colo.; Mrs. James P. Simonds, Chicago; and Mrs. W. K. West, Oklahoma City.

Chairmen of Standing Committees

Archives—Mrs. Charles E. Sears, 2340 Atlantic Avenue, Atlantic City, N. J.

Finance—Mrs. Harold F. Wahlquist, 129 West Forty-Eighth Street, Minneapolis, Minn.

Historian—Mrs. John J. Ryan, 2153 Iglehart Avenue, St. Paul, Minn.

Hygeia—Mrs. George R. Dillinger, French Lick, Ind.

Legislation—Mrs. Jesse D. Hamer, 1819 North Eleventh Avenue, Phoenix, Ariz.

Organization—Mrs. John Bauer, 984 Bushwick Avenue, Brooklyn.

Parliamentarian—Mrs. Robert E. Fitzgerald, 1761 Church Street, Wauwatosa, Wis.

Press and Publicity—Mrs. George H. Ewell, Editor of Bulletin, 721 Seneca Place, Madison, Wisconsin.

Circulation Manager—Mrs. Charles H. Werner, 531 North Twenty-Fourth St., St. Joseph, Missouri.

Program—Mrs. William Hibbitts, 2524 Wood Street, Texarkana, Texas.

Public Relations—Mrs. P. Dwyer, 165 Sixth Street, Renovo, Pa.

Revisions—Mrs. Eustace A. Allen, 18 Collier Road, N. W., Atlanta, Ga.

Supplies—Mrs. J. E. Purdy, 327 Nineteenth Street, N. W., Canton, Ohio.

Hygeia—Mrs. George R. Dillinger, Chairman, French Lick, Ind.

Western Region—Mrs. Leonard Brewer, Missoula, Mont.

Southern Region—Mrs. W. W. Fowler, 920 Monett Street, Norman, Okla.

Eastern Region—Mrs. H. V. Thomas, 511 Stanley Avenue, Clarksbury, W. Va.

North Central Region—Mrs. R. L. Novy, 2910 Iroquois Avenue, Detroit.

The auxiliary voted to confer honorary membership on:

Mrs. Willard C. Bartlett, St. Louis.
Mrs. Franklin P. Gengenbach, Denver.
Mrs. V. E. Holcombe, Charleston, W. Va.
Mrs. John O. McReynolds, Dallas, Texas.
Mrs. Samuel Clark Red, Houston, Texas.

Respectfully submitted,

Mrs. Jules Myron Davidson,
Chairman, Press and Publicity.

BOOK REVIEWS

Physical Diagnosis: By William Nance Anderson, B. Sc., M. D. Philadelphia, Lea and Febiger, 1940. Pp. 424. Price $4.75.

Written by an Associate Clinical Professor of Medicine at the University of Southern California School of Medicine, this book is verbose, repetitious, and suffers from a lack of careful organization. Judicious balance is absent, as illustrated by more than a page being devoted to the technic of gastric analysis and by the statement that for hospital patients there should be a routine order requiring that every emesis be analyzed for free hydrochloric acid. Descriptions of many findings are incomplete; for example, Koplik spots are mentioned as an early sign of measles but nothing whatever is said about their appearance or how they differ from other lesions of the mucous membranes. Throughout the text the author has recorded his impressions as if they were established facts, whereas in truth issue might be taken with many.

The illustrations are entirely too few (92 in all, as compared with 464 in Major's text of similar size) and in addition are poorly chosen and unimpressive. There is no bibliography.

This work in no way compares with such standard texts as Norris and Landis, and Cabot, nor with the more recent one of Major.

EDWARD MATTHEWS, M. D.

The Art of Anesthesia: By Paluel J. Flagg, M. D., 6th ed. rev. Philadelphia, J. B. Lippincott Company, 1939. Pp. 491. Price $6.00.

The author writes from an extensive experience covering a period of many years which is clearly reflected in the contents of the book. Considerable attention is devoted to anesthesia from the point of view of the patient, which emphasizes the relationship of the anesthetist in establishing a proper psychologic as well as physical evaluation and preparation of the patient.

One wishes for more description of spinal and local anesthesia as well as for discussion of intravenous agents in anesthesia. There is much in this work which should be of value to the surgeon as well as to his most valuable aide, the anesthetist.

CHARLES MASON, M. D.

The Treatment of Diabetes Mellitus: By Elliot P. Joslin, A. M., M. D., Sc. D., Howard F. Root, M. D., Priscilla White, M. D., and Alexander Marble, A. M., M. D. 7th ed. Philadelphia, Lea and Febiger, 1940. Pp. 783. Price $7.50.

The seventh edition of Joslin's Treatment of Diabetes Mellitus represents for the first time a collaborative effort on the part of Joslin and his associates. So much work has been advanced since the advent of the insulin era that a thorough evaluation of the different phases of diabetic research and treatment cannot be adequately handled by one man. Root, White and Marble have helped considerably in the major revision of this standard book.

As in the past, the statistical method is used throughout the book. However, one has the satisfaction that this compilation has been done in conjunction with a large life insurance organization of which the work is a major activity.

There are a few new chapters such as syphilis and allergy in diabetes, by McDaniel. The chapter on pregnancy in diabetes, by White, is a notable contribution. She has done serum prolan estimations after the method of Smith and has reported a lessening in the incidence of toxemias and complications of pregnancy formerly seen in diabetic mothers after treatment with estrogens was instituted. It may be cited, however, that this work has been challenged by some workers.

The incidence of vascular disease in diabetes commands a prominent place in this book. As before, Joslin and his associates lean heavily on the theory of a definite diabetic taint in this direction. That such a conclusion is not wholly warranted has been brought forth quite strongly recently.

The prominence of arteriosclerosis in diabetics may, after all, be more apparent than real, mainly for the reason that insulin has made possible a longer life for the diabetic. Statistics that are not adequately controlled by normals, may continue to perpetuate this opinion.

In the treatment of diabetic acidosis, Joslin and his collaborators still hold to the conservative trilogy of treatment; (1) fluids; (2) salt, and (3) insulin. As before he reserves no place for alkalies. This opinion is not shared by others who have found the alkalies, especially sodium bicarbonate, very efficacious and almost spectacular in those cases of severe acidosis where it is used. In fact, the release from the comatose state after intravenous administration of properly prepared solutions of sodium bicarbonate can be compared to that of the release from hypoglycemic coma by the use of glucose. Certainly this alkali deserves wider use in properly selected cases.

With the accounting of these reservations this book still remains the most authoritative and comprehensive treatise in the English language, and deserves a place on the bookshelf of anyone interested in metabolic work.

ROBERT A. KATZ, M. D.

Neoplastic Diseases: A Treatise on Tumors: By James Ewing, A. M., M. D., Sc. D., LL. D. 4th ed. rev. Philadelphia, W. B. Saunders and Company, 1940. Pp. 1160, illus. Price $14.00.

This text represents the latest edition on Neoplastic Diseases by America's foremost authority on neoplasia. Nothing finer has been written in the English language on this subject. The first, second, third and fourth editions have appeared in the years 1919, 1922, 1928 and 1940 respectively. Twelve years have elapsed between the third and present edition. In this interim much has been added to our store of knowledge on malignant diseases from the standpoint of genetics, chemistry, physiology, experimentation and certain phases of treatment. This has made it necessary for Ewing to revise completely many chapters of the text. Many new contributions are added, still the present edition so far as total number of pages and illustrations are concerned is little increased in number over the previous edition. This has been accomplished by omitting old material which was mainly of historical interest. Likewise discussions of debatable tumors have been eliminated. A revised classification of bone tumors based on histogenesis is offered. Recognition of sub-groups is based on pathologic anatomy, since this plan lends itself to the practical needs of the surgeon, radiologist and pathologist. The author discusses carcinoma arising from pulmonary alveoli. This possibility may be subjected to considerable discussion and doubt since certain modern histologists have insisted that the alveolar walls are bare and without an epithelial lining. It is especially pleasing to note that a new and modern classification of ovarian tumors is offered. The particular groups of ovarian tumors arising from embryonic rests and first described by Meyer in 1931 are thoroughly discussed. Unfortunately the text lays little importance on special staining methods as a means of differentiating on histopathologic basis the more complex neoplasms.

The photographic reproductions are of good quality in most instances. Additional microphotographs, however, would be helpful, especially in many of the tumors which present different histologic patterns but which have a common histogenesis. This could be accomplished by a curtailment of the large number of photographs of gross specimens which in many instances contribute little towards the differential pathologic diagnosis. An ample and extensive bibliography, although some of the references are old, is arranged in the back rather than following each page or chapter.

H. J. SCHATTENBERG, M. D.

Textbook of Pathology: By W. G. MacCollum. 7th ed. rev. Philadelphia, W. B. Saunders Co., 1940. Pp. 1302, illus. Price, $10.00.

This is the seventh edition of one of the finest textbooks of pathology in the English language. The style as in previous editions is clear and readable. Stress is continually placed on the causes of disease and their effects on bodily functions. The distinguished author has revised his book in the light of the developments since the last edition of the text, four years ago, and has therefore made it of still greater use to the medical profession.

J. ZISKIND, M. D.

Mosquito Control: Practical Methods for Abatement of Disease Vectors and Pests: By William Brodbeck Herms, Sc. D., and Harold Farnsworth Gray, Gr. P. H. New York, The Commonwealth Fund, 1940. Pp. 317. Price, $3.50.

This manual covers in an orderly and comprehensive manner an excellent review of the subject. There is presented a discussion of the nature and extent of the mosquito problem, its economic and public health importance, and considerable detail as to control methods. Without sacrificing technical soundness and scientific accuracy the authors discuss, in language comprehensive to persons without education in science, the biologic principles upon which control must be based; and describe in detail practical application of a large number of different control methods over a wide range of geographic and topographic variations in terrain and breeding areas.

The experience of authorities in various parts of the world have been drawn upon freely to supplement the thirty years of the authors' experience.

Although the book is designed primarily for the use of men actually engaged in mosquito abatement work, it would serve as an excellent textbook and reference manual.

J. H. O'NEILL, M. D.

Recent Advances in Endocrinology: By A. T. Cameron, M. A., D. Sc. (Edin.), F. I. C., F. R. S. C. 4th ed. Philadelphia, The Blakiston Company, 1940. Pp. 432. Price, $5.00.

Endocrinology today occupies a large part of current medical literature. To review this material is such a monumental task that it is virtually impossible to include all recent advances in a small volume of 432 pages.

Nevertheless, the author has included all significant advances in endocrinology with brief illustrative case reports. The biochemical and physiologic aspects are emphasized at the expense of the clinical. Revisions of the chapters on the gonads and on the pituitary gland have endeavored to keep up with the rapid additions to knowledge of these glands.

This edition is a welcome review and reference. However, the reader for detailed information must refer to the excellent bibliography included with each subject.

JOHN C. WEED, M. D.

Textbook of Pediatrics: By J. P. Crozer Griffith, M. D., Ph. D., and A. Graeme Mitchell, M. D. 3d ed. rev. and reset. Philadelphia, W. B. Saunders Co., 1941. Pp. 991. Price, $10.00.

So many changes have been made in this third edition of a standard pediatric textbook that the usual brief and terse note on a reviewer calling attention to another edition of a well known text is not applicable here. It is in reality a new book, with a new title (formerly "The Disease of Infants and Children").

One of the very outstanding innovations in the text has been the assistance given to the authors by many specialists both in and outside the field of pediatrics. It is now well recognized that pediatrics is hardly a specialty, but is rather the practice of general medicine in the young. On account of this fact it becomes evident that no one man can possibly be as authority in all of the various branches and ramifications of pediatrics. The help given to and gratefully acknowledged by the authors is a definite asset to the book and certainly adds a certain degree of prestige to it.

Another change in the text is the omission of a bibliography as the authors have pointed out, "it is impossible to include a complete bibliography for each subject" and "an incomplete one would be only a gesture." A textbook after all is for reference itself, and certainly only a few of those who read such a book, spend much time in studying the bibliography.

Several chapters have been added in this edition, such as "Mental and Emotional Development and Mental Hygiene", and "Pediatric Institutions and Organizations."

Many of the illustrations have been carried over from the former editions, and although several new ones have been added, there is still a need for more of them and for clearer photography.

H. P. MARKS, M. D.

The Therapy of the Neuroses and Psychoses: By Samuel Henry Kraines, M. D. Philadelphia, Lea & Febiger, 1941. Pp. 512. Price, $5.50.

Nowhere is there a clearer example of the excellence of American psychiatric thought, theory, and practice than appears in this brilliant, impressive, and effective book on The Therapy of the Neuroses and Psychoses. Its teachings are potent and economical, the specialist's knowledge being distilled into a lucid account of what the well-trained physician should know.

The volume consists of seventeen topical sections, Those which especially appealed to and impressed me are the chapters entitled "Sex Drives"; "Stress as a Determining Factor"; "Characteristic General Attitudes and Their Treatment"; "Psychoanalysis and Related Schools."

Section V—"Sex Drives"—is incomparable. It is not stating it too strongly to say that thorough understanding of its doctrines is essential to successful psychiatric procedure. The description of the mechanism of coitus is unique and of inestimable importance. Undoubtedly, far too few physicians understand it in this light.

The treatise was prepared more particularly to be of help to the general practitioner or the non-psychiatric specialist. Not a great many such physicians will find themselves equipped and immediately able to utilize and apply the material in Chapters VI, VIII, X, and XI.

This work of Kraines is eminently authoritative and contains a vast amount of valuable information. It will fit nicely into any medical library. It will greatly enrich the knowledge and broaden the experience of those who properly use it.

C. P. MAY, M. D.

Heart Failure: By Arthur M. Fishberg, M. D., 2d ed. rev. Philadelphia, Lea & Febiger, 1940. Pp. 829. Price, $8.50.

The fact that this publication was indicated by exhaustion of the first edition emphasizes the appreciation of Fishberg's work. The revision detracts none from the evaluation of previous work but rather stands as a supplement and is as praiseworthy in its thorough presentation of all additional valuable work done on heart failure. It is remarkable that in 829 pages devoted exclusively to cardiac failure there has been close adherence to the subject illustrating the thoroughness of the study.

There is no speciality that does not have its relationship to cardiovascular failure considered. The functional as well as the organic are amplified. The book is packed with information, not only technical in nature but also broad in character, and is most instructive for the cardiologist, for the internist or for anyone who is in actual contact with myocardial disease. The measurement and evaluation of the fundamental circulatory variables in health and disease, the differentiation of central and peripheral failure, the clinical types of heart failure with relation to their etiologic background, are covered in minute detail. The entire subject is simplified chiefly by explaining in practical detail, physiology and pathology, and by emphasis accentuated diagnosic points of importance. Therapy is reviewed, evaluated and applied to each specific type of manifestation. It places the clinical side of the issue within the reach of the practitioner who desires to do more than describe digitalis for his cardiac patients.

The text is too well edited to need criticism. The author is so competent and well qualified in his management to this branch of medicine that his work is beyond doubt the most authoritative publication on the subject.

GORDON MCHARDY, M. D.

The Anatomy of the Eye and Orbit: By Eugene Wolff, M. B., B. S. (Lond.), F. R. C. S. (Eng.), 2nd ed. Philadelphia, The Blakiston Co., 1940. Pp. 374. Price, $7.50.

The second edition of this excellent work renders a distinct service to ophthalmologists who, generally speaking like myself, are anatomically lazy. It has helped me visualize more rapidly and accurately the exact location of things gone hay-wire in the visual mechanism.

In 370 pages the author has presented an ample, simple and practical understanding of the subject. Systematic arrangement, a comprehensive table of contents, and a complete alphabetical index make the finding of desired information exceptionally easy. Four types of print facilitate comparisons of importance; 250 illustrations are mostly schematic in black and white; they really illustrate. Rather inflammatory in shade are the colored illustrations; better that however, than anemic. The concluding chapters on the Development of the Eye and Comparative Anatomy revealed to me an almost pleasant way of reviewing these difficult, uninteresting, neglected, but important subjects. For those desiring to play hide and seek with the less practical phases of the subject, the bibliography offers ample clues.

In my opinion, no book has yet been written on this subject which combines comprehensiveness, practicality and simplicity to a greater degree than the Anatomy of the Eye and Orbit by Eugene Wolff.

CHAS. A. BAHN, M. D.

The Extra-Ocular Muscles: By Luther C. Peter, A. M., M. D., Sc. D., LL. D., 3rd. ed. rev. Philadelphia, Lea and Ferbiger, 1941. Pp. 368. Price, $4.50.

The short interval between the second and third editions of this informative and well arranged work, speaks for itself. It shows what ophthalmologists really thought of the author's past efforts.

Few new ideas have been incorporated in the third edition. Few new ideas on this subject have gotten past first base during the past five years. The author has wisely omitted weird applications whose practical uses appear as vague as the future of an unborn child. In orthoptics for example, some of the peculiar procedures mentioned in the literature seem better adapted to increase the patient's financial imbalance than to cure that which may exist in the ocular muscles.

It is much easier to tear down than build up, especially in the abstracting of medical works. Students of ophthalmology, young and old, will make no mistake in reading, and re-reading the work. It is the most complete and orderly presentation of this subject yet written by an American.

CHARLES A. BAHN, M. D .

Essentials of the Diagnostic Examination: By John B. Youmans, B. A., M. S., M. D. New York, The Commonwealth Fund, 1940. Pp. 417; 36 fig.; 11 tables. Price $3.00.

The author states in the preface to this manual that "No attempt has been made to treat exhaustively the subjects of history taking and physical diagnosis, and the present volume is in no sense a textbook on physical diagnosis." The same comment could be made in respect to the section dealing with laboratory procedures, which is additionally simplified by the description of only a single method for each test.

The book, the author further states, is essentially "an expansion of the outlines" used in the courses in physical diagnosis and clinical laboratory methods which he has conducted for practitioners for the past ten years. To this method of presentation at least one objection can be raised. Generally speaking, much that is of the greatest value is lost when a subject is reduced to outline form. Only within very narrow limits is it possible to carry into the printed version the personal influence which a good teacher has on his students, both through his manner of exposition and through the example of his conduct at the bedside.

The greatest field of usefulness of outline presentations would seem to be limited to students

who are approaching a special phase of medicine for the first time, of course under proper guidance. Such a presentation might conceivably be of use also to practitioners who have already studied a subject under proper supervision and who might wish to review it systematically. A book of this type, however, does not fill the real need which in the reviewer's opinion exists—and has not yet been met—for a treatise on the detailed, orderly examination of systems, e. g., the gastrointestinal, pulmonary and skeletal systems. The more obscure the condition, the more does diagnosis become an actual problem in research, and under such circumstances even physicians with good fundamental training in physical and laboratory diagnosis need all the help possible.

That sort of assistance is not likely to be provided by an over-simplified text such as this. The book is clear and concise, and it includes the important principles of physical diagnosis, as well as certain details of the subject. The section on laboratory diagnosis is also fairly adequate. On the other hand, there is nothing to distinguish the book from several similar texts now available.

ROBERT C. LOWE, M. D.

As I Remember Him: By Hans Zinsser. Boston, Little, Brown & Co., 1940. Pp. 443. Price $2.75.

In view of the fact that this book has been widely reviewed in both the medical and lay press, it is unnecessary to consume space in this journal for another extended review such as this publication deserves. Suffice it to say, it is one of the finest medical autobiographies of our day. It is not only crammed with factual data but is beautifully and entertainingly written. It is recommended to those who in the press of other activities have not as yet had the opportunity to read it.

B. B. WEINSTEIN, M. D.

Diseases Transmitted from Animals to Man: By Thomas G. Hill, Ph. D. Springfield, Charles C Thomas, 1941. Pp. 403. Price $5.50.

The second edition of this excellent book has been extensively revised and considerable new material added. Hull has, in this edition, asked some fourteen contributors to assist him in the preparation of the volume. Two of these contributors are from New Orleans: G. W. McCoy and E. C. Faust. Other contributors include such men as Dyer of the U. S. P. H. S., Klauder, Weidman, as well as several well-known veterinarians.

The book is filled with information which would be of service to the doctor of medicine and of veterinary medicine, and to public health officials. It should be of great interest to lay persons who are interested in individual and public health problems. It is for these people that the book of course has been primarily written. This can be well seen in the statement under rabies of how to treat dog bites: "First—call a physician." This statement does not imply, however, that the physician cannot get a tremendous amount of information condensed in a relatively few pages which would necessitate an extensive survey of the literature were he to attempt to obtain facts such as are contained in this excellent book. It is to be recommended most highly.

J. H. MUSSER, M. D.

Biochemistry of Disease: By Meyer Bodansky, Ph. D., M. D., and Oscar Bodansky, Ph. D., M. D. New York, The Macmillan Company, 1940. Pp. 684. Price $8.00.

"Biochemistry of Disease" by the brothers Bodansky is a well written survey and critical review of the strides made in biochemistry as related to modern clinical medicine. The plan of the book follows that of a systematic presentation of the chemical aspects of the various diseases arranged according to clinical entities. The authors have tried to place before the reader a volume wherein he may survey quickly and adequately the contributions that modern physiologic chemistry have made to the study of disease. The book is not a synopsis or outline, but a well integrated volume of seventeen chapters. The chapters on diseases of the blood, heart, disorders of digestive, liver, and biliary tract are especially well presented as are also those on metabolism and nutrition. There is a very adequate bibliography. This book is a definite contribution to be read with profit.

ROBERT A. KATZ, M. D.

The Endocrine Function of Iodine: By William Thomas Salter. Cambridge, Mass., Harvard University Press, 1940. Pp. 351. Price $3.50.

This book is the first of a series of Harvard University Monographs in Medicine and Public Health. Most of the material is concerned with the relationship between iodine and the functions of the thyroid gland. Other subjects discussed are: (1) endocrine balance between the thyroid and other glands of internal secretion; (2) iodine metabolism as studied with radioactive iodine; (3) neurologic influence upon the thyroid function. One chapter is devoted to clinical problems in thyroid disease, and an appendix of methods found suitable for the determination of iodine is included.

Many of the references are recent because the rapid improvement in the determination of blood iodine has stimulated much research on the relation between blood iodine values and thyroid disease.

A publisher's note states that this volume will

be of interest to surgeons, physiologists, biochemists, pharmacologists and experts in nutrition. It will be of special interest to those interested in the theory of thyroid disease.

F. W. BERNHART, Ph. D.

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Radiologic Review Publishing Company, Quincy, Ill.: X-ray Treatment of Chronic Arthritis, by Karl Goldhamer, M. D.

W. B. Saunders Company, Philadelphia: Infantile Paralysis, by Philip Lewin, M. D., F. A. C. S. A Primer for Diabetic Patients, by Russell M. Wilder, M. D., Ph. D., F. A. C. P. The American Illustrated Medical Dictionary, by W. A. Newman Dorland, A. M., M. D., F. A. C. S., revised and enlarged with the collaboration of E. C. L. Miller, M. D.

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